

Exhibit A

SUPREME COURT OF THE STATE OF NEW YORK

COUNTY OF NEW YORK

-----	X	
In the Matter of the Application of	:	
	:	
INTERNATIONAL ENGINEERING &	:	Index No.
CONSTRUCTION S.A.,	:	RJI No.
	:	Date filed:
Petitioner,	:	
	:	
For an Order under Article 75 of the Civil	:	<u>PETITION TO VACATE</u>
Practice Law and Rules to vacate the Parties’	:	<u>ARBITRAL AWARD</u>
arbitral award,	:	
	:	
-against-	:	
	:	
GE OIL & GAS, LLC (f/k/a GE OIL & GAS,	:	
INC.), GE INTERNATIONAL OPERATIONS	:	
(NIGERIA) LTD., BAKER HUGHES	:	
ENERGY SERVICES LLC, PRESSURE	:	
CONTROL SYSTEMS NIGERIA LTD.,	:	
BAKER HUGHES CO., and BAKER HUGHES:	:	
HOLDINGS LLC,	:	
	:	
Respondents.	:	
-----	X	

Petitioner International Engineering & Construction S.A. (“IEC”), by and through its undersigned attorneys, White & Case LLP, respectfully submits this Petition under Article 75 of the New York Civil Practice Law and Rules (“CPLR”) to vacate an arbitral award rendered on October 30, 2020, in the International Centre for Dispute Resolution (“ICDR”) / American Arbitration Association (“AAA”) Case No. 01-18-0002-9174 (“Award”), in connection with a dispute involving the engineering, supply, and construction of two liquefied natural gas (“LNG”) production plants sold by Respondent GE Oil & Gas, LLC (“GE”). For the reasons below and in the accompanying Memorandum of Law, the Award should be vacated and the case remanded to a new panel.

PRELIMINARY STATEMENT

1. This Article 75 proceeding seeks an order pursuant to CPLR 7511 to vacate the Award issued on October 30, 2020, for GE and GE International Operations (Nigeria) Ltd. (“GE Nigeria”) (together “Respondents” with other affiliated entities).

2. Judicial review of the Award is also governed by the Federal Arbitration Act (“FAA”) because the arbitration agreement and the Parties’ legal relationship arise out of foreign commerce. 9 U.S.C. § 1, 10; *Metrosvyaz Ltd. v. Whale Telecom Ltd.*, No. 600061/05, 2006 N.Y. Misc. LEXIS 298, at *5-6 (Sup. Ct., N.Y. Cty. Sept. 21, 2006).

3. IEC and its subsidiary Greenville Liquefied Natural Gas Co., Ltd. (“Greenville”) (together “Claimants”) initiated arbitration against the Respondents on July 31, 2018, pursuant to a contract for the sale of two LNG plants executed by IEC and GE on September 13, 2013 (“Equipment Contract”), as well as a services agreement executed by IEC and GE Nigeria on the same date regarding the installation of the plants (“Services Agreement”).

4. The three-member Tribunal rendered the Award on October 30, 2020, finding that GE repeatedly breached the Equipment Contract, but holding that its liability was limited by the liability limitation provisions contained therein, which capped and limited GE’s damages to “direct” damages. One arbitrator dissented from the majority’s decision on GE’s limited liability (“Dissent”).

5. The Award represents a manifest disregard of the law. By requiring IEC to show *specific, individual* instances of gross negligence and willful misconduct, the Tribunal disregarded New York law, which clearly provides that gross negligence and willful misconduct can be established through *cumulative* conduct, not just specific or isolated instances of gross negligence. The Tribunal also manifestly disregarded the Equipment Contract by ordering IEC to pay GE for mechanically completing the plants, even though the

Contract expressly conditions payment on GE's performance of all its obligations, and even though GE failed to perform those obligations and then abandoned the project and forced IEC to mechanically complete the plants. Finally, the Tribunal's decision to award GE payment for mechanical completion was also completely irrational under New York law because it not only ignored express contractual language, but it also awarded GE payment for work that it never performed and that was only completed by Claimants after GE abandoned the project altogether. The Award should be vacated.

PARTIES

6. Petitioner IEC is a foreign corporation organized and existing under the laws of Luxembourg with registered address at Rue de Neudorf 36 L-2222, Luxembourg, Luxembourg.

7. Respondent GE is a corporation organized and existing under the laws of Delaware with primary business office at 17021 Aldine Westfield Rd., Houston, Texas 77073. GE is a designer and manufacturer of small-scale LNG plants and signed the Equipment Contract with IEC on September 13, 2014.

8. Respondent GE Nigeria is a foreign corporation organized and existing under the laws of Nigeria with registered and principal address at Mansard Place, Plot 927/928 Bishop Aboyade Cole Street, Victoria Island, Lagos, Nigeria. GE Nigeria is active in the oil and gas business and executed the Services Agreement with IEC on September 13, 2014.

9. Respondent Baker Hughes Energy Services LLC is a corporation organized and existing under the laws of the State of Delaware with primary business office at 17021 Aldine Westfield Rd., Houston, Texas 77073.

10. Respondent Pressure Control Systems Nigeria Ltd. is a foreign corporation organized and existing under the laws of Nigeria with registered and principal address at Mansard Place, Plot 927/928 Bishop Aboyade Cole Street, Victoria Island, Lagos, Nigeria.

11. Respondent Baker Hughes Co. is a corporation organized and existing under the laws of Delaware with primary business office at 17021 Aldine Westfield Rd., Houston, Texas 77073.

12. Baker Hughes Holdings LLC is a corporation organized and existing under the laws of Delaware with primary business office at 17021 Aldine Westfield Rd., Houston, Texas 77073.

JURISDICTION AND VENUE

13. This Court has jurisdiction pursuant to CPLR 7501 *et seq.*, because the Parties agreed in writing to arbitration in New York, and there is no pending action related to the Award. CPLR 7501-7502, 7511.

14. Venue in New York County is proper pursuant to CPLR 7502 because the arbitration was held, and the Award was rendered, in New York City.

STATEMENT OF FACTS

15. IEC and GE entered into the Equipment Contract on September 13, 2013, for the sale of two modular LNG plants that GE agreed to deliver in 9 and 12 months. IEC also entered into the Services Agreement with GE Nigeria regarding the installation of the plants. Both contracts are governed by New York law, and they contain arbitration clauses designating New York as the seat.

16. On July 30, 2018, IEC and Greenville initiated arbitration against GE, GE Nigeria, and related entities, claiming multiple breaches of the Equipment Contract and Services Agreement for the over four-year delay in delivery and operation of the plants. Claimants also argued that GE's conduct amounted to gross negligence or willful misconduct and thus that the limited liability provision in the Equipment Contract should not apply.

17. On August 14, 2018, Respondents counterclaimed for payment under the contracts and, in particular, the milestone payment for mechanical completion of the plants.

The main hearing on the merits was held in New York on December 9 until December 20, 2019, with closing statements made at a later hearing in Milan on January 21, 2020. After several rounds of pleadings before and after the hearing, the Tribunal issued its Award on October 30, 2020.

18. The Tribunal found that IEC was entitled to the full amount of liquidated damages for GE's late delivery of both plants and that GE had failed or refused to remedy numerous defects—some life-threatening. The Tribunal further found that GE was solely responsible for the delays and defects, which prevented mechanical completion of the plants and their operation. The Tribunal also acknowledged that GE had left the site in 2019, and that as a result IEC was forced to remedy the defects and achieve mechanical completion itself.

19. Nevertheless, the Tribunal found no gross negligence or willful misconduct on the part of Respondents, and therefore enforced the limited liability provision of the Equipment Contract, thereby awarding IEC only its direct damages arising from GE's numerous breaches of the Equipment Contract and depriving IEC of the substantial lost profits that it would have earned if GE had performed. The Tribunal specifically ruled that it “would need to be pointed at specific instances” that amounted to gross negligence or willful misconduct and thus refused to account for the cumulative effect of GE's course of poor performance and breaches. Award ¶ 774. In addition, the Tribunal expressly acknowledged that GE was responsible for the mechanical completion of the project, but nonetheless awarded GE a milestone payment for mechanical completion after the Claimants mechanically completed the plants. *Id.* ¶¶ 939-43.

20. One arbitrator—Mr. Paul F. Saba—dissented from the majority on its decision on limited liability. He stressed that the delays, multiple defects, piecemeal delivery of the plants' parts, and fact that GE failed to remedy defects within a reasonable time “were too many, too serious, and too prolonged for GE to escape major liability.” Dissent ¶¶ 15-16 (“the record in this case amply supports a finding of gross negligence and a very different outcome”).

Arbitrator Saba properly focused on the cumulative effect of GE's breaches. Arbitrator Saba also found that some of the defects themselves amounted to gross negligence for being an extreme departure of ordinary care and a disregard of a known or obvious safety risk. *Id.* ¶¶ 10-12. Arbitrator Saba further criticized the majority for awarding GE the mechanical completion payment even though GE did not remedy the defects or achieve mechanical completion. *Id.* ¶ 20.

21. Attached as Exhibit 1 is a true and correct copy of the Parties' Award issued on October 30, 2020, and delivered to the Parties on the same date.

22. Attached as Exhibit 2 is a true and correct copy of Arbitrator Saba's Dissent delivered on the same date as the Award.

23. Attached as Exhibit 3 is a true and correct copy of the Equipment Contract between GE and IEC of September 13, 2014.

24. Attached as Exhibit 4 is a true and correct copy of the Services Agreement between GE Nigeria and IEC of September 13, 2014.

25. Attached as Exhibit 5 is a true and correct copy of Claimants' Statement of Claim and Defense to Counterclaim of March 15, 2019.

26. Attached as Exhibit 6 is a true and correct copy of Respondents' Statement of Defense and Reply on Counterclaim of September 2, 2019.

27. Attached as Exhibit 7 is a true and correct copy of the transcript of the closing hearing held in Milan on January 21, 2020.

28. Attached as Exhibit 8 is a true and correct copy of Claimants' First Post-Hearing Submission of March 3, 2020.

29. Attached as Exhibit 9 is a true and correct copy of Claimants' Reply Post-Hearing Submission of May 8, 2020.

30. Attached as Exhibit 10 is Arbitrator Stefano Azzali's Disclosure Statement of Aug. 23, 2018.

FIRST CAUSE OF ACTION

VACATUR OF ARBITRAL AWARD

31. Petitioner repeats and re-alleges paragraphs 1 through 30 above, as if fully set forth herein.

32. Under the FAA, courts "may set aside an arbitration award if it was rendered in manifest disregard of the law." *Weiss v. Sallie Mae, Inc.*, 939 F.3d 105, 109 (2d Cir. 2019); *see also Citigroup Global Mkts., Inc. v. Fiorilla*, 127 A.D.3d 491, 492 (1st Dep't 2015). This requires a showing that "the law that was allegedly ignored was clear," that "the law was in fact improperly applied, leading to an erroneous outcome," and the "arbitrator's awareness of the law[.]" *Duferco Int'l Steel Trading v. T. Klaveness Shipping A/S*, 333 F.3d 383, 390 (2d Cir. 2003); *see also Wien & Malkin LLP v. Helmsley-Spear, Inc.*, 6 N.Y.3d 471, 481 (2006).

33. As set forth in greater detail in the accompanying Memorandum of Law, the Tribunal manifestly disregarded the law by refusing to account for the cumulative effect of GE's breaches and course of performance when deciding whether GE acted with gross negligence or willful misconduct. Under New York law (and in the United States generally), a party can establish gross negligence and willful misconduct with evidence of cumulative facts that, when viewed in aggregate, satisfy the standard. The Tribunal ignored this law and required IEC to show specific, individual acts that, standing alone, establish gross negligence or willful misconduct. The Tribunal thus refused to account for the combined effect of the wrongfulness of GE's shockingly poor performance, including significant delays, rampant defects, the failure to remedy those defects (some of which pose serious safety risks), and GE's abandonment of the site. Because the Tribunal was made aware of the "cumulative facts" standard throughout the arbitration, the Tribunal's disregard of the law was manifest and

resulted in the enforcement of the liability limitation provision in the Equipment Contract. As a result, GE was not held liable for the full extent of harm caused to IEC.

34. For the foregoing reasons, and as set forth more fully in the accompanying Memorandum of Law, IEC requests this Court to vacate the Final Award under FAA, 9 U.S.C. § 10.

SECOND CAUSE OF ACTION

VACATUR OF ARBITRAL AWARD

35. Petitioner repeats and re-alleges paragraphs 1 through 30 above, as if fully set forth herein.

36. As explained above, courts may vacate an award under the FAA for manifest disregard of the law. This includes instances where the tribunal manifestly disregards the express terms of the parties' contract by rendering a decision that "ignored and contradicted an unambiguous term of the agreement[.]" *Weiss v. Sallie Mae, Inc.*, 939 F.3d 105, 110 (2d Cir. 2019).

37. Here, clause 7.1 of the Equipment Contract unambiguously states that the Contract price is "for performance of Seller's obligations" and that IEC "agreed to pay the Contract Price to Seller . . . in consideration for the performance by Seller of all its obligations under the Agreement[.]" The Tribunal read this provision out of the Contract altogether by compensating GE for mechanical completion even though the Tribunal found that GE failed to remedy the defects, had abandoned the site altogether, and that IEC mechanically completed the plants itself.

38. For the foregoing reasons, and as set forth more fully in the accompanying Memorandum of Law, IEC requests this Court to vacate the Final Award under FAA, 9 U.S.C. § 10.

THIRD CAUSE OF ACTION

VACATUR OF ARBITRAL AWARD

39. IEC repeats and re-alleges paragraphs 1 through 30 above, as if fully set forth herein.

40. Under CPLR 7511(b)(iii), an arbitral award may be vacated when the arbitrators exceeded their powers. An excess of powers occurs when the arbitrators “give a completely irrational construction to the provisions in dispute and, in effect, make a new contract for the parties.” *Nat’l Cash Register Co. v. Wilson*, 8 N.Y.2d 377, 383 (1960); *see also Kudler v. Truffelman*, 93 A.D.3d 549, 550 (1st Dep’t 2012).

41. The Award is completely irrational for awarding GE the mechanical completion payment while ignoring that the Contract makes payment conditional on GE performing its obligations, that GE had failed to remedy the material defects, and that IEC had to mechanically complete the plants itself as a result of GE’s abandonment of the site.

42. For the foregoing reasons, and as set forth more fully in the accompanying Memorandum of Law, IEC requests this Court to vacate the Final Award under CPLR 7511.

PRAYER FOR RELIEF

WHEREFORE, IEC respectfully requests this Court to: enter an Order under CPLR 7511 and 9 U.S.C. § 10 vacating the Award of October 30, 2020, remanding to a new panel, awarding IEC its costs in this proceeding, and issuing such other and further relief as the Court deems just and proper.

Date: January 27, 2021
New York, New York

Respectfully submitted,

White & Case LLP

By: /s/ David G. Hille

David G. Hille
Elizabeth Oger-Gross
Joshua D. Weedman

1221 Avenue of the Americas
New York, New York 10020
(212) 819-8200
dhille@whitecase.com
elizabeth.oger-gross@whitecase.com
jweedman@whitecase.com

*Attorneys for Petitioner International
Engineering & Construction S.A.*

To:

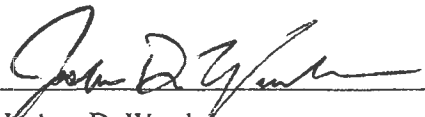
Michael McIlwrath
Teresa Garcia-Reyes
Global Litigation Counsel
Baker Hughes, a GE Co.
Via F. Matteucci, 2
50127 Florence, Italy
+39 055 423 8445

*Attorneys for Respondents GE Oil & Gas,
LLC (f/k/a GE Oil & Gas, Inc.), GE
International Operations (Nigeria) Ltd.,
Baker Hughes Energy Services LLC, Pressure
Control Systems Nigeria Ltd., Baker Hughes
Co., and Baker Hughes Holdings LLC*

VERIFICATION

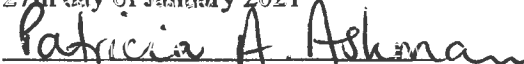
Joshua D. Weedman, being duly sworn, deposes and says:

- I am an attorney at White & Case LLP for the petitioner, International Engineering & Construction S.A.
- I have read the foregoing petition, as has the petitioner, and its factual contents are true to the knowledge of the petitioner, except as to those matters alleged therein to be upon information and belief, and as to those matters, it believes them to be true.
- This verification is not made by the petitioner because the petitioner is a foreign corporation. The verification is thus made by the attorney for petitioner pursuant to CPLR 3020(d)(3).


Joshua D. Weedman
White & Case LLP
Attorney for Petitioner

Sworn to before me this

27th day of January 2021



Notary Public

PATRICIA A. ASHMAN
Notary Public, State of New York
No. 01AS6155444
Qualified in Bronx County
Certificate Filed in New York County
Commission Expires December 11, 2022

<u>Exhibit No.</u>	<u>Description</u>
1	Award rendered on October 30, 2020, in ICDR/AAA Case No. 01-18-0002-9174 (“Award”)
2	Dissenting opening of Arbitrator Paul F. Saba rendered on October 30, 2020, in ICDR/AAA Case No. 01-18-0002-9174 (“Dissent”)
3	Contract for the sale of two small scale LNG plants between GE Oil & Gas, Inc., Seller to International Engineering & Construction S.A., Buyer, executed on September 13, 2104 (“Equipment Contract”)
4	Services Agreement between GE International Operations (Nigeria) Ltd., as Services Provider and International Engineering & Construction S.A., as Buyer, executed on September 13, 2014 (“Services Agreement”)
5	Claimants’ Statement of Claim and Statement of Defense to Counterclaim, dated March 15, 2019 (“Statement of Claim”)
6	Respondents’ Statement of Defense to Claim and Reply on Counterclaims, dated September 2, 2019 (“Statement of Defense”)
7	Transcript of the Closing Hearing held in Milan on January 21, 2020
8	Claimants’ Post-Hearing Submission, dated March 3, 2020 (“Post-Hearing Submission”)
9	Claimants’ Reply Post-Hearing Submission, dated May 8, 2020 (“Reply Post-Hearing Submission”)
10	Arbitrator Stefano Azzali’s Disclosure Statement of August 23, 2018

Exhibit 1

INTERNATIONAL CENTRE FOR DISPUTE RESOLUTION
International Arbitral Tribunal

ICDR Case No. 01-18-0002-9174

INTERNATIONAL ENGINEERING & CONSTRUCTION S.A. (Luxembourg)
GREENVILLE LIQUEFIED NATURAL GAS COMPANY, LTD. (Nigeria)
(f/k/a Greenville Oil & Gas Company, Ltd.)

(Claimants)

- and -

BAKER HUGHES ENERGY SERVICES LLC (Delaware, USA)
(f/k/a GE Oil & Gas, LLC, f/k/a GE Oil & Gas, Inc.)
GE INTERNATIONAL OPERATIONS (NIGERIA) LTD. (Nigeria)
PRESSURE CONTROL SYSTEMS NIGERIA LIMITED (Nigeria)
(as successor to GE International Operations (Nigeria) Ltd.)
BAKER HUGHES COMPANY (Delaware, USA)
(f/k/a Baker Hughes, a GE Company) (as successor to Baker Hughes Energy Services LLC)
BAKER HUGHES HOLDINGS LLC (Delaware, USA)
(f/k/a Baker Hughes, a GE Company, LLC) (as successor to Baker Hughes Energy Services LLC)

(Respondents)

FINAL AWARD

Arbitral Tribunal
Paul F. Saba
Stefano Azzali
David Arias (Presiding Arbitrator)

New York City, 30 October 2020

TABLE OF CONTENTS

I.	PARTIES, LEGAL REPRESENTATIVES, ARBITRAL TRIBUNAL AND TRIBUNAL SECRETARY	1
A.	The Parties	1
B.	The Parties' legal representatives	2
C.	The Arbitral Tribunal	3
D.	The Tribunal Secretary	4
II.	THE ARBITRATION AGREEMENTS	5
III.	PLACE OF THE ARBITRATION	7
IV.	LANGUAGE OF THE ARBITRATION	7
V.	APPLICABLE LAW	7
VI.	FORM OF THIS FINAL AWARD	7
VII.	PROCEDURAL HISTORY	7
A.	Commencement of the arbitration and constitution of the Arbitral Tribunal	7
B.	First communication of the Arbitral Tribunal	11
C.	Draft Procedural Order No. 1 and procedural timetable	15
D.	Preliminary Hearing and Procedural Order No. 1	16
E.	Procedural Order No. 2	17
F.	Procedural Orders Nos. 3 and 4	18
G.	Procedural Orders Nos. 5 and 6	20
H.	Arbitral Tribunal's Subpoena and request for site visit	24
I.	Pre-hearing conference	25
J.	The Hearing	27
K.	Procedural Order No. 7	32
L.	The Additional Hearing	33
M.	First post-hearing briefs, Procedural Orders Nos. 8 and 9	36
N.	Second post-hearing briefs and cost submissions	38
O.	Final submissions and closing of the Hearing	39
VIII.	FACTUAL BACKGROUND	39
IX.	RELIEF SOUGHT BY THE PARTIES	42
A.	Claimants	42
B.	Respondents	47
C.	Claimants' relief sought with respect to the Respondents' counterclaims	51
X.	CLAIMANTS' CLAIMS	52
A.	Jurisdiction over the Claimants' claims	52
1.	Jurisdiction over Greenville's claims	52
a.	Respondents' position	52
b.	Claimants' position	54
c.	Arbitral Tribunal's analysis	55
2.	Jurisdiction over the claims against the BHGE Entities	58
a.	BHGE Entities' position	58
b.	Claimants' position	59
c.	Arbitral Tribunal's analysis	60
3.	Power to award claims beyond the Contracts	62
B.	Claims under the Equipment Contract	62

1.	Liquidated damages for delayed delivery (Clause 6.5 of the Equipment Contract)	63
a.	Whether IEC has made a timely claim for liquidated damages for delay under Clause 6.5 of the Equipment Contract	63
b.	Whether liquidated damages for delay are due from the Delivery Date or from the end of the 4-week grace period	67
c.	Whether GEOG is entitled to an extension of the Delivery Date pursuant to Clause 6.3 of the Equipment Contract	69
d.	Whether the ICP was part of the contractual scope of delivery	71
e.	Whether the Trains were delivered and, if so, when	75
f.	Conclusion	80
2.	Direct damages related to the remediation of defects by IEC in lieu of GEOG (Clause 17.4(i) of the Equipment Contract)	81
a.	Preliminary issue: Whether Claimants have made a claim under Clause 17.4(i) of the Equipment Contract	81
b.	Heavy hydrocarbon removal system	82
c.	External Engineering Support for Commissioning	103
d.	Investment for installation of a variable frequency drive	108
e.	Additional costs of remedying defects: cost of replacement of the MRC Motor electrical cables	116
3.	Damages associated with delayed operation (Clause 6.6(ii) / Clause 17.4(i) of the Equipment Contract)	117
a.	Whether the delayed operation was caused by the delayed delivery and/or the delayed remediation of defects	118
b.	Whether the procedure for claims under Clauses 6.6(i) and 17.4(i) of the Equipment Contract needed to be followed / was followed	141
c.	Which kind of damages can be recovered as direct damages under the Equipment Contract	144
d.	Whether the limitation of liability provision in Clause 19.3 of the Equipment Contract is applicable	147
e.	Damages items	160
C.	Fraud claims	175
1.	IEC' position	175
2.	GEOG' position	175
3.	Arbitral Tribunal's analysis	176
D.	Claims for declaratory relief	176
XI.	COUNTERCLAIMANTS' COUNTERCLAIMS	178
A.	Equipment contract price	178
1.	GEOG's position	178
2.	IEC's position	181
3.	Arbitral Tribunal's analysis	185
a.	Spare Parts	185
b.	Train 2 Ready to Ship	185
c.	Mechanical Completion of Trains 1 and 2	186
d.	Taking Over of Trains 1 and 2	194
B.	Services Agreement Price	196
1.	GE Nigeria's position	196
2.	IEC's position	197
3.	Arbitral Tribunal's analysis	197
C.	Additional works	198
1.	Counterclaimants' position	198

2.	IEC's position	203
3.	Arbitral Tribunal's analysis	206
a.	Claims for prolongation and escalation of manhour rates	206
b.	Change order provisions in the Contracts	207
c.	Waiver/Estoppel.....	208
d.	Unjust enrichment.....	218
e.	Breach of Clause 1.7	220
f.	Conclusion	220
D.	Claims for breach of confidentiality obligations	220
1.	Counterclaimants' position	220
2.	IEC's position	221
3.	Arbitral Tribunal's analysis	221
XII.	BHGE ENTITIES' COUNTERCLAIMS	223
A.	BHGE Entities' position	223
B.	IEC's position.....	223
C.	Arbitral Tribunal's analysis	223
XIII.	INTEREST	224
A.	IEC's interest claims	224
B.	GEOG's interest claims	225
XIV.	COSTS	226
XV.	FINAL AWARD	230

LIST OF DEFINED TERMS

Additional Hearing	The hearing for closing arguments that took place on 21 January 2020
Appendix A	Appendix A, "Scope of Supply," to the Equipment Contract (Exhibit C-770) (Exhibit R-17)
BHGE	Baker Hughes Company (f/k/a Baker Hughes, a GE Company)
BHGE Entities	BHGE and BHGE LLC
BHGE LLC	Baker Hughes Holdings LLC (f/k/a Baker Hughes, a GE Company LLC)
Chart	Chart Industries Inc. and Chart Energy and Chemicals Inc.
Claimants' First Post-Hearing Brief	Claimants' Post-Hearing Submission, of 3 March 2020
Claimants' Second Post-Hearing Brief	Claimants' Reply to Respondents' First Post-Hearing Brief, of 8 May 2020
Claimants' Cost Submission	Claimants' Submission on Fees and Costs of 29 May 2020
Contracts	The Equipment Contract and the Services Agreement
Counterclaimants	GEOG and GE Nigeria
Cs' PHB1	Claimants' First Post-Hearing Brief
Cs' PHB2	Claimants' Second Post-Hearing Brief
Draft PO1	Draft Procedural Order No. 1 sent by the Arbitral Tribunal to the Parties on 28 November 2018
Equipment Contract	Contract for the Sale of Two Small Scale (SCMR) LNG Plants entered into between GEOG and IEC on 13 September 2014 (Exhibit C-1) (Exhibit R-1)
GE Entities	GEOG and GE Nigeria
GE Nigeria	GE International Operations (Nigeria) Ltd.
GEOG	Baker Hughes Energy Services LLC (f/k/a GE Oil & Gas, LLC, f/k/a GE Oil & Gas, Inc.)
Greenville	Greenville Liquefied Natural Gas Company, Ltd. (f/k/a Greenville Oil & Gas Company, Ltd.)
Guarantee	Guarantee Agreement, dated 13 September 2014 entered into between GEOG and IEC on 13 September 2014 (Exhibit C-3) (Exhibit R-18)

Hearing	Evidentiary hearing that took place from 9 to 20 December 2019
HHCs	Heavy hydrocarbons
HHR	Heavy hydrocarbon removal system
ICDR Guidelines	ICDR Guidelines for Arbitrators Concerning Exchanges of Information
ICDR/AAA	International Centre for Dispute Resolution/American Arbitration Association
IEC	International Engineering & Construction S.A.
MRC	Mixed Refrigerant Compressor
Parties	The Claimants and the Respondents
PCSNL	Pressure Control Systems Nigeria Limited
Preliminary Hearing	Preliminary hearing held on 4 December 2018
PRVs	Pressure relief valves
Respondents' Cost Submission	Respondents' Cost Submission of 29 May 2020
Respondents' First Post-Hearing Brief	Respondents' First Post Hearing Brief of 3 March 2020
Respondents' Second Post-Hearing Brief	Respondents' Second Post Hearing Brief of 8 May 2020
Rs' PHB1	Respondents' First Post-Hearing Brief
Rs' PHB2	Respondents' Second Post-Hearing Brief
Rules	American Arbitration Association's Commercial Arbitration Rules in force since 1 October 2013
Rumuji Plant	LNG plant in Nigeria, located in Rumuji, Rivers State
Services Agreement	Services Agreement entered into between GE Nigeria and IEC on 13 September 2014 (Exhibit C-2) (Exhibit R-2)
SoC	Statement of Claim
SoCC	Statement of Counterclaim
SoD	Statement of Defense
SoR	Statement of Reply
Statement of Claim	Claimants' Statement of Claim and Statement of Defense to Counterclaim of 15 March 2019
Statement of Counterclaim	Respondents' Statement of Counterclaim of 18 January 2019
Statement of Defense	Respondents' Statement of Defense to Claim and Reply on Counterclaims of 2 September 2019

Statement of Reply	Claimants' Reply Submission of 15 November 2019
Tr.	Transcript of the Hearing held in New York City between 9 and 20 December 2020
Tr. Milan	Transcript of the Additional Hearing held in Milan on 21 January 2020
Train 1	The first of two fully-modular small scale LNG production plants or trains purchased under the Equipment Contract
Train 2	The second of two fully-modular small scale LNG production plants or trains purchased under the Equipment Contract
Train 3	Small scale LNG plant produced for Shell for its Canadian Green Corridor project in Northern Canada
Trains	Train 1 and Train 2
VFD	Variable frequency drive

1. WE, THE UNDERSIGNED ARBITRATORS, having been designated in accordance with the arbitration agreements dated 13 September 2014,¹ and having been duly sworn, and having duly heard the proofs and allegations of the parties, do hereby, AWARD, as follows:

- I. **PARTIES, LEGAL REPRESENTATIVES, ARBITRAL TRIBUNAL AND TRIBUNAL SECRETARY**

- A. **The Parties**

2. The Claimants are:

- (i) International Engineering & Construction S.A. ("**IEC**"), a corporation organized and existing under the laws of Luxembourg, with tax identification number LU 262 44 169, and with registered office at Rue de Neudorf 36 L-2222, Luxembourg, Luxembourg.
 - (ii) Greenville Liquefied Natural Gas Company, Ltd. (f/k/a Greenville Oil & Gas Company, Ltd.²) ("**Greenville**" and, together with IEC, the "**Claimants**"), a corporation organized and existing under the laws of the Federal Republic of Nigeria, with tax identification number 17890269-0001, and with registered office at 45B T.Y. Danjuma Street, Asokoro, Abuja.

3. The Respondents are:

- (i) Baker Hughes Energy Services LLC (f/k/a GE Oil & Gas, LLC,³ f/k/a GE Oil & Gas, Inc.⁴) ("**GEOG**"), a corporation organized and existing under the laws of the State of Delaware, USA, with tax identification number 06-1507509, and with primary business office at 17021 Aldine Westfield Road, Houston, Texas 77073, USA.
 - (ii) GE International Operations (Nigeria) Ltd. ("**GE Nigeria**" and, together with GEOG, the "**Counterclaimants**" or the "**GE Entities**"), a corporation organized and existing under the laws of the Federal Republic of Nigeria, with tax identification number RC 38028, and with registered and principal address at Mansard Place, Plot 927/928 Bishop Aboyade Cole Street, Victoria Island, Lagos, Nigeria.
 - (iii) Pressure Control Systems Nigeria Limited ("**PCSNL**") (as successor to GE Nigeria), a corporation organized and existing under the laws of the Federal Republic of Nigeria, with tax identification number 629215, and with registered and principal address at Mansard Place, Plot 927/928 Bishop Aboyade Cole Street, Victoria Island, Lagos, Nigeria.

¹ See below, ¶12.

² See Claimants Reply Submission of 15 November 2019 (the "**Statement of Reply**" or "**SoR**"), ¶1.

³ See Respondents' Second Post Hearing brief of 8 May 2020 ("**Respondents' Second Post-Hearing Brief**" or "**Rs' PHB2**"), ¶34.

⁴ See Counterclaimants' Demand for Arbitration of 14 August 2018, ¶1, Footnote 1.

- (iv) Baker Hughes Company (f/k/a Baker Hughes, a GE Company⁵) (as successor to GEOG) ("BHGE") a corporation organized and existing under the laws of Delaware, with tax identification number 81-4403168, and with primary business office at 17021 Aldine Westfield Road, Houston, Texas 77073, USA.
- (v) Baker Hughes Holdings LLC (f/k/a Baker Hughes, a GE Company LLC⁶) (as successor to GEOG) ("BHGE LLC" and, together with BHGE, the "BHGE Entities," and, together with GEOG, PCSNL, GE Nigeria and BHGE, the "Respondents," and together with the Claimants, the "Parties"), a corporation organized and existing under the laws of Delaware, with tax identification number 76-0207995, and with primary business office at 17021 Aldine Westfield Road, Houston, Texas 77073, USA.

B. The Parties' legal representatives

4. The Claimants are represented by:

Yaakov Adler, Esq.

Peter J. Gutowski, Esq.

J. Tanner Honea, Esq.

Freehill, Hogan & Mahar, LLP

80 Pine Street

25th Floor

New York, New York 10005

T. +1 212 425 1900

adler@freehill.com

gutowski@freehill.com

honea@freehill.com

Jay L. Alexander, Esq.

Baker Botts LLP

41 Lothbury

London EC2R 7HF

United Kingdom

T. +44 20 7726 3414

jay.alexander@bakerbotts.com

⁵ See Rs' PHB2, ¶34.

⁶ See Rs' PHB2, ¶34.

Andrew Behrman
Baker Botts LLP
30 Rockefeller Plaza
New York, NY 10112
T. +1 212 408 2570
andrew.behrman@bakerbotts.com

Vernon Cassin
Baker Botts LLP
1299 Pennsylvania Avenue, NW
Washington D.C. 20004
T. +1 202 639 1139
vernon.cassin@bakerbotts.com

5. The Respondents are represented in the present arbitration by:

Michael McIlwrath, Esq.
Teresa Garcia-Reyes, Esq.
Global Litigation Counsel
Baker Hughes, a GE company
Via F. Matteucci, 2
50127 Florence, Italy
T. +39 055 423 8445
michael.mcilwrath@bhge.com
teresa.Garciareyes@bhge.com

Avv. Roberto Calabresi
Avv. Kathryn S. Siebke
SLCG – Studio Legale Associato
Piazza Indipendenza, 28
50129 Florence, Italy
T. +39 055 219327
rcalabresi@slcg.it
ksiebke@slcg.it

C. The Arbitral Tribunal

6. The Arbitral Tribunal, which consists of three arbitrators, has been constituted as follows:

7. The Claimants have appointed as co-arbitrator:

Paul F. Saba, Esq.
c/o KPR Associates
292 Newbury St., #542
Boston, MA 02115
USA
T. +1 617 267-4101
pfsaba1@gmail.com

8. The Respondents have appointed as co-arbitrator:

Avv. Stefano Azzali
Corso Genova n. 21
20123 Milan
Italy
T. +39 335 588 8573
stefano.azzali@mi.camcom.it

9. The co-arbitrators have jointly appointed as Presiding Arbitrator:

David Arias
Herbert Smith Freehills Spain LLP
Velazquez 63
28001 Madrid
Spain
T. +34 914 234 115
david.arias@hsf.com

10. The appointment of the members of the Arbitral Tribunal has been confirmed by the International Centre for Dispute Resolution/American Arbitration Association (the "ICDR/AAA").

D. The Tribunal Secretary

11. The Arbitral Tribunal has appointed as Tribunal Secretary:

Luis Capiel
Herbert Smith Freehills Spain LLP
Velazquez 63
28001 Madrid
Spain
T. +34 914 234 090

luis.capiel@hsf.com

II. THE ARBITRATION AGREEMENTS

12. The Claimants and the Counterclaimants submitted claims based on:

- (i) Clause 20 of the "*Contract for the Sale of Two Small Scale (SCMR) LNG Plants*" entered into between GEOG, as seller, and IEC, as buyer, on 13 September 2014 (the "**Equipment Contract**"⁷), which reads as follows:

"20. DISPUTE RESOLUTION

20.1 In the event of any dispute arising out of or in connection with the Agreement, the Parties agree to submit the matter to arbitration to be administered by the AAA under its Commercial Arbitration Rules before a board of three (3) persons consisting of one (1) arbitrator to be appointed by Seller, one (1) arbitrator by Buyer, and one (1) by the two so chosen, who will act in the capacity as procedural chairman. The seat, or legal place, of the arbitration shall be New York City, New York. The language to be used in the arbitration shall be English. Judgment on any award rendered by the arbitrators, or a majority thereof, may be entered by a court of competent jurisdiction.

20.2 In the event Buyer makes claims against Seller and the Services Provider under the Services Contract;

then in such case:

(a) Seller agrees to appear and participate as a party defendant in the same New York arbitration proceedings commenced under the Services Agreement;

(b) the arbitration shall be conducted in one proceeding before a single board of three persons consisting of one (1) arbitrator to be appointed jointly by Seller and Services Provider, one (1) arbitrator by Buyer, and one (1) by the two so chosen, who will act in the capacity as procedural chairman, all other terms and conditions of this Clause to apply;

(c) In the case of an arbitration involving Seller and Services Provider, Seller agrees that it shall not assert Services Provider's performance or non-performance under the Service Contract as a defense to any claim by Buyer."

⁷ Exhibits C-1 and R-1.

- (ii) Clause 20 of the "Services Agreement" entered into between GE Nigeria, as services provider, and IEC, as buyer, on 13 September 2014 (the "**Services Agreement**,"⁸ and together with the Equipment Contract, the "**Contracts**"), which reads as follows:

"20. DISPUTE RESOLUTION

20.1 In the event of any dispute arising out of or in connection with the Services Contract, the Parties agree to submit the matter to arbitration to be administered by the AAA under its Commercial Arbitration Rules before a board of three (3) persons consisting of one (1) arbitrator to be appointed by Services Provider, one (1) arbitrator by Buyer, and one (1) by the two so chosen, who will act in the capacity as procedural chairman. The seat, or legal place, of the arbitration shall be New York City, New York. The language to be used in the arbitration shall be English. Judgment on any award rendered by the arbitrators, or a majority thereof, may be entered by a court of competent jurisdiction.

20.2 In the event Buyer makes claims against Seller and the Services Provider under the Services Contract;

then in such case:

(a) Services Provider agrees to appear and participate as a party defendant in the same New York arbitration proceedings commenced under the Sales Contract;

(b) the arbitration shall be conducted in one proceeding before a single board of three (3) persons consisting of one (1) arbitrator to be appointed jointly by Seller and Services Provider, one (1) arbitrator by Buyer, and one (1) by the two (2) so chosen, who will act in the capacity as procedural chairman, all other terms and conditions of this Clause to apply;

(c) In the case of an arbitration involving Seller and Services Provider, Service Provider agrees that it shall not assert Seller's performance or non-performance under the Sales Contract as a defense to any claim by Buyer."

13. The Claimants also submitted a claim based on Clause 7 of the "Guarantee Agreement" entered into between GEOG, as guarantor, and IEC, as buyer, on 13 September 2014 (the "**Guarantee**"⁹), which reads as follows:

"7. Any and all disputes arising under or relating to this Guarantee shall be subject to the Dispute Resolution Clause (the arbitration clause) as contained the Services Agreement, which is incorporated herein by reference, with the understanding that any

⁸ Exhibits C-2 and R-2.

⁹ Exhibits C-3 and R-18.

references to Seller in that clause shall be considered a reference to Guarantor for purposes of this Guarantee, and Guarantor agrees, upon demand, to appear and participate in any arbitration commenced by Buyer against Services Provider, Guarantor not to be entitled to appoint a separate arbitrator."

III. PLACE OF THE ARBITRATION

14. Pursuant to the above arbitration agreements, the place of the arbitration is New York City, New York, U.S.A.

IV. LANGUAGE OF THE ARBITRATION

15. Pursuant to the above arbitration agreements, the language of this arbitration is English.

V. APPLICABLE LAW

16. Pursuant to Clause 21.1 of the Equipment Contract, Clause 21.1 of the Services Contract and Clause 8 of the Guarantee, the applicable law is the law of the State of New York, U.S.A., without regard to its conflict or choice of laws rules. Clause 21.1 of the Equipment Contract, Clause 21.1 of the Services Contract further stipulate that the UN Convention on the International Sale of Goods (CISG) shall not apply.

VI. FORM OF THIS FINAL AWARD

17. As per the Parties' agreement with respect to Rule R-46(b) of the Rules, as reflected in ¶115 of Procedural Order No. 1, this final award is a reasoned award.

VII. PROCEDURAL HISTORY

A. Commencement of the arbitration and constitution of the Arbitral Tribunal

18. On 31 July 2018, the Claimants filed a Notice of Demand and Commencement of Arbitration with the ICDR/AAA concerning claims under the Equipment Contract, the Services Agreement, the Guarantee and further agreements. The claims under the Equipment Contract were made against GEOG and the BHGE Entities. The Claims under the Services Agreement and the Guarantee were made against all Respondents. The case was assigned ICDR/AAA case number 01-18-0002-9174.
19. On 14 August 2018, the Counterclaimants filed a Demand for Arbitration against IEC, selecting Mr Stefano Azzali as their party-appointed co-arbitrator. The case was assigned ICDR/AAA case number 01-18-0003-0793.
20. On 17 August 2018, the ICDR/AAA held an administrative conference call with the Parties.

21. On 20 August 2018, the ICDR/AAA sent a letter to the Parties in which it:

- (i) Determined that the Claimants' claims under the Equipment Contract, the Services Contract, and the Guarantee were ripe for initiation with an effective commencement on that date, i.e., 20 August 2018;
- (ii) Indicated that the American Arbitration Association's Commercial Arbitration Rules in force on that date, i.e., the version effective as of 1 October 2013 (the "**Rules**"), should apply to this matter;
- (iii) Confirmed that the Rule R-4 filing requirements had been sufficiently satisfied to move these matters forward, and noted that it understood that the Claimants' quantification of damages was under active review and would be amended shortly and might be significantly higher;
- (iv) Stated that the non-signatory item had sufficiently been briefed to determine that any questions in that regard had to be decided by the Arbitral Tribunal once appointed;
- (v) Invited the Claimants to designate their party-selected arbitrator by 3 September 2018;
- (vi) Observed that any further disputes or concerns with regard to the above items were to be raised with the Arbitral Tribunal once appointed and that all other claims raised by the Claimants did not fall under this case number and would be addressed by the ICDR/AAA under separate cover shortly;
- (vii) Informed that it had added the claims contained in the Counterclaimants' Demand for Arbitration based on the Equipment Contract and the Services Agreement (i.e., the claims assigned the ICDR/AAA case number 01-18-0003-0793) as counterclaims to the ICDR/AAA case number 01-18-0002-9174 in the spirit of the 17 August 2018 administrative conference call;
- (viii) Informed that it was in the process of appointing Mr Azzali as Respondents' party-selected arbitrator;
- (ix) Invited the Parties to file an answering statement with the other side and the ICDR/AAA by 3 September 2018;
- (x) Stated that as the claim/counterclaim amounts exceeded USD 500,000 and unless the Parties agreed otherwise, the Procedures for Large, Complex Commercial Disputes should apply to this matter as described in Rules L-1 through L-3 of these procedures, in addition to any other portion of the Rules that is not in conflict with these procedures;
- (xi) Noted that it had enclosed a Checklist for Conflicts form and invited the Parties to list all the witnesses they expected to present, as well as any persons or entities with an interest in the arbitration, by 3 September 2018;

- (xii) Asked the Parties to advise whether they required an additional administrative conference call to address any other questions and indicated that, if not, it would be understood that any arbitrator compensation should be advanced in equal shares by each side; and
- (xiii) Invited the Parties to advise, by 3 September 2018, whether they wished to attempt to mediate this dispute and it informed that absent an agreement, it understood that either side opted out of this option.
22. On 24 August 2018, the ICDR/AAA informed the Parties that it had appointed Mr Azzali as co-arbitrator and it enclosed a copy of his (i) Notice of Appointment, (ii) biographical card containing his résumé; and (iii) Notice of Compensation Arrangements. The ICDR/AAA also noted that Mr Azzali had made a disclosure and invited the Parties to advise the ICDR/AAA of any objections to his appointment by 7 September 2018, copying the other side but not the prospective members of the Arbitral Tribunal.
23. On 31 August 2018, the Respondents submitted their Answering Statement in which, among others, they (i) rejected the consolidation of disputes other than those arising under the Equipment Contract, the Services Contract and the Guarantee (ii) rejected the inclusion in this proceeding of any non-signatories to the aforesaid contracts which provided for arbitration only between GEOG and PCSNL, on the one side, and IEC, on the other; and (iii) requested that the Arbitral Tribunal issue an award declaring its lack of jurisdiction on any claims raised by the Claimants against the BHGE Entities.
24. On 3 September 2018, the Claimants sent an email to the ICDR/AAA wherein they selected Mr Paul F. Saba as their party-appointed arbitrator.
25. That same day, the Respondents submitted their Checklist for Conflicts form, as per the ICDR/AAA letter of 20 August 2018.
26. On 5 September 2018, the Claimants sent an email to the ICDR/AAA with a list of potential witnesses for conflict purposes, as per the ICDR/AAA letter of 20 August 2018.
27. That same day, IEC submitted its Answering Statement.
28. On 10 September 2018, the ICDR/AAA informed the Parties that it had appointed Mr Paul F. Saba, Esq. as co-arbitrator, enclosed a copy of his Notice of Appointment and résumé, and announced that it would send Mr Saba's Notice of Compensation Arrangements to the Parties under separate cover shortly. The ICDR/AAA also noted that Mr Saba had made a disclosure and invited the Parties to advise the ICDR/AAA of any objections to his appointment by 24 September 2018, copying the other side but not the prospective members of the Arbitral Tribunal.

29. That same day, the ICDR/AAA informed the Parties that no objections had been filed in relation to Mr Azzali's disclosures. Moreover, it announced that Mr Azzali had communicated to the ICDR/AAA that he had no additional disclosures. Therefore, the appointment of co-arbitrator Azzali was reaffirmed.
30. On 13 September 2018, the ICDR/AAA informed the Parties that no objections had been filed in relation to Mr Saba's disclosures and, therefore, the appointment of co-arbitrator Saba was reaffirmed. Moreover, it noted that it had informed Arbitrators Azzali and Saba that the selection of the Presiding Arbitrator was expected to be completed by 24 September 2018.
31. On 21 September 2018, upon an even dated joint request by Arbitrators Azzali and Saba, the ICDR extended the deadline for selection of the Presiding Arbitrator to 11 October 20018.
32. On 9 October 2018, Arbitrators Azzali and Saba put to the Parties a short list of four candidates and asked the Parties to rank the names in order of preference.
33. On 10 October, the Parties sent their responses and Mr David Arias was ranked highest.
34. On 12 October 2018, Mr Saba sent an email to the Parties, on behalf of the co-arbitrators, indicating that both co-arbitrators had agreed on nominating Mr Arias to serve as Presiding Arbitrator of the Arbitral Tribunal, subject to confirmation pursuant to the Rules and the ICDR/AAA's practice.
35. That same day, the ICDR/AAA sent an email to Mr Arias in which it informed him that the ICDR/AAA was going to send him shortly an official invitation letter to serve as Presiding Arbitrator if he so accepted.
36. On that same day, the ICDR/AAA sent a letter to Mr Arias in which it invited him to act as Presiding Arbitrator of the Arbitral Tribunal and provided him, among others, with the instructions for acceptance.
37. On 17 October 2018, the ICDR/AAA informed the Parties that it had appointed Mr Arias as Presiding Arbitrator of the Arbitral Tribunal, enclosed a copy of his Notice of Appointment and announced that it would send Mr Arias's Notice of Compensation Arrangements to the Parties under separate cover shortly. The ICDR/AAA also noted that Mr Arias had made a disclosure and invited the Parties to advise the ICDR/AAA of any objections to his appointment by 31 October 2018, copying the other side but not the Arbitral Tribunal. Further, the ICDR/AAA invited the Parties to advise, by 19 October 2018, of their availability to hold a preliminary hearing conference call for the timeframe between 29 October 2018 and 9 November 2018.

B. First communication of the Arbitral Tribunal

38. On 18 October 2018, the Respondents sent an email to the ICDR/AAA informing about the dates and time frames on which they were available to hold the preliminary hearing conference call.
39. Later that day, the ICDR/AAA sent an email asking the Claimants whether any of the dates and time frames suggested by the Respondents suited them.
40. On 19 October 2018, the Claimants sent an email to the ICDR/AAA proposing that the preliminary hearing be held in person, in London.
41. That same day, the ICDR/AAA sent an email to the Parties and the Arbitral Tribunal stating that it deferred to the Arbitral Tribunal on the modus, date and time of the preliminary hearing and on whether the Parties should submit additional comments on the issue before making a determination.
42. On 20 October 2018, the Respondents sent an email clarifying that the availability provided in their correspondence of 18 October 2018 was for a telephone conference and that if the Arbitral Tribunal elected to have an in-person preliminary hearing they would need to revisit the dates that they had suggested. The Respondents also proposed that the Parties exchanged views on procedure and timetable with a view to presenting their points of agreement and disagreement to the Arbitral Tribunal and, only then, decide whether the costs and time of an in-person preliminary conference would be justified. Finally, the Respondents proposed that the time for the preliminary hearing conference call be confirmed without prejudice to the Claimants' request for an in-person meeting.
43. On 21 October 2018, the Claimants sent an email conveying their agreement to the Respondents' proposal that the Parties conferred among themselves and tried to reach agreement before the preliminary hearing. However, the Claimants insisted that it would be preferable to identify a time for an in-person preliminary hearing which could then be converted to a telephonic conference if the Parties were largely successful in their discussions.
44. On that same day, the Arbitral Tribunal issued its first communication to the Parties whereby it:
 - (i) Indicated that it was going to prepare, for the Parties' review and comment, a draft version of Procedural Order No. 1, which would memorialize the decisions and agreements reached during or following the preliminary hearing pursuant to Rule P-2(b) of the Rules;
 - (ii) Encouraged the Parties to liaise and agree on a number of procedural preferences and inform it of any agreement they might reach and, in the event that there were issues on which the Parties could not reach an agreement, submit the reasons why such agreement

was not possible as well as their individual preferences on the disputed issues, by 5 November 2018;

- (iii) Informed the Parties that it was not available on the dates for which both Parties had confirmed their availability for the preliminary hearing and that it would get back to them with additional possible dates; and
- (iv) Announced that once the Parties had informed it about their points of agreement and disagreement regarding their procedural preferences it would revisit whether the preliminary hearing should be held by telephone conference or in person.

- 45. That same day, the Arbitral Tribunal informed the ICDR/AAA that it wished to appoint an Administrative Secretary to assist in this arbitration. Specifically, it proposed the appointment of Mr Luis Capiel as Administrative Secretary of the case, attached his curriculum vitae and his declaration of independence and impartiality, and asked the ICDR/AAA to convey such proposal to the Parties.
- 46. On 22 October 2018, the Respondents sent an email asking the Presiding Arbitrator to include Teresa Garcia-Reyes in future exchanges and providing her email address. In addition, the Respondents requested the ICDR/AAA to confirm the application of the ICDR Guidelines for Arbitrators Concerning Exchanges of Information (the "**ICDR Guidelines**") in this arbitration.
- 47. On the same day, the Claimants sent an email in which they commented on the Respondents' correspondence submitted earlier that day and requested the ICDR/AAA to confirm that the ICDR Guidelines did not apply in this arbitration.
- 48. On 23 October 2018, the Respondents sent an email in which they commented on the Claimants' correspondence of 22 October 2018 and insisted on their position that the ICDR Guidelines applied in this arbitration.
- 49. On 24 October 2018, the Claimants sent an email in which they commented on the Respondents' correspondence of 23 October 2018 and reiterated their position that the ICDR Guidelines did not apply in this arbitration.
- 50. That same day, the ICDR/AAA sent an email to the Parties stating that it looked forward to the Parties' comments regarding the Arbitral Tribunal's first communication of 21 October 2018 by 5 November 2018 and providing remarks on the issue concerning the application of the ICDR Guidelines. In particular, the ICDR/AAA expressed the view that the ICDR Guidelines were directed to arbitrators sitting on international cases pending before the ICDR/AAA, that they came into play in international cases administered under the Rules to the extent they did not contradict them, and that they were intended to guide arbitrators who could apply them at their

discretion. The ICDR/AAA also reminded that the ICDR Guidelines provided that they would not be effective when the parties to an arbitration agreed for them not to apply. On a final note, the ICDR/AAA indicated that it had added Ms Garcia-Reyes as additional Counsel for the Respondents and asked her to confirm her address for the ICDR/AAA's record.

51. Also on that day, the ICDR/AAA informed the Arbitral Tribunal that it had conveyed to the Parties the proposal of appointing an Administrative Secretary and asked them to provide an answer by 29 October 2018.
52. On 25 October 2018, the ICDR/AAA informed the Arbitral Tribunal that the Parties had agreed to the appointment of Mr Capiel as Tribunal Secretary, and that the ICDR/AAA was going to contact Mr Capiel directly and provide him with the disclosure questionnaire.
53. Also on that day, the ICDR/AAA sent a letter to the Parties attaching a copy of the Notice of Appointment of Luis Capiel as Tribunal Secretary. In the letter, the ICDR/AAA noted that Mr Capiel had made a disclosure and invited the Parties to advise the ICDR/AAA of any objections to his appointment by 31 October 2018, copying the other side but not the Arbitral Tribunal nor the prospective Tribunal Secretary. Further, the ICDR/AAA drew attention of the Parties to Mr Capiel's hourly rate.
54. On 30 October 2018, the Arbitral Tribunal invited the Parties to advise, by 5 November 2018, about their availability to attend the preliminary hearing on one of several different dates proposed, if it were to be held by telephone conference, and on one of three dates suggested, if it were to be held in-person.
55. On 31 October 2018, the ICDR/AAA informed the Parties that no objections had been filed in response to Mr Arias' disclosure mentioned at ¶37 above and, in light thereof, it reaffirmed his appointment as Presiding Arbitrator. The ICDR/AAA also confirmed that the Parties did not file objections in response to Mr Capiel's disclosure mentioned at ¶53 above. It further took note of the Arbitral Tribunal's invitation mentioned at ¶54 above and expressed that it looked forward to hearing from the Parties about their availability for the preliminary hearing by 5 November 2018.
56. On 4 November 2018, the Respondents sent an email to the Tribunal Secretary informing about their availability to attend the preliminary hearing on the dates proposed in the invitation mentioned at ¶54 above and stating that did not copy the Claimants as they were not sure they were required to do so.
57. On 5 November 2018, the Claimants sent an email to the Arbitral Tribunal announcing that they had been working together with the Respondents on the responses to the Arbitral Tribunal's first communication of 21 October 2018 and, on behalf of the Parties, they requested a two-day extension to provide such responses, i.e., until 7 November 2018.

58. On the same day, the Arbitral Tribunal granted the Parties a two-day extension of the deadline set in its first communication of 21 October 2018. The Arbitral Tribunal also attached the Respondents' email mentioned at ¶56 above, asked the Parties to always copy the members of the Arbitral Tribunal as well as opposing counsel except as otherwise stipulated by the Arbitral Tribunal for particular situations. Further, the Arbitral Tribunal asked the Claimants to inform it by that day about their availability for the preliminary hearing.
59. On that same day, the Claimants sent an email informing the Arbitral Tribunal about their availability to attend the preliminary hearing on the dates proposed in the Arbitral Tribunal's invitation mentioned at ¶54 above.
60. Later on that same day, the Arbitral Tribunal asked the Parties to save the afternoon (London time) of 4 December 2018 as tentative date for the preliminary hearing (the "**Preliminary Hearing**") and informed them that the exact time and whether the Preliminary Hearing was to be held by telephone conference or in person (and, if so, where) would be decided by the Arbitral Tribunal in due course.
61. Also on that day, the ICDR/AAA sent an email to the Parties indicating that it would await the Arbitral Tribunal's final instructions on the time and modus of the Preliminary Hearing and would then send its official Notice of Preliminary Hearing, with dial-in details, if needed. Also, the ICDR/AAA echoed the Arbitral Tribunal's reminder mentioned at ¶58 above to always copy all participants, including also the ICDR/AAA whenever correspondence was being sent to the Arbitral Tribunal and/or the Tribunal Secretary.
62. On 6 November 2018, the Respondents sent an email in which they proposed to hold the Preliminary Hearing via telepresence and offered to provide at no cost the telepresence facilities in locations where the Respondents had them such as London, Paris, Florence, Boston and possibly Milan and New York.
63. On the same day, the Claimants sent an email indicating that they did not consider it appropriate to hold the Preliminary Hearing in separate conference rooms of the Respondents and observed that the Respondents did not have facilities available in necessary locations such as Madrid, Nigeria and Washington, D.C. Moreover, the Claimants announced that if on the following day the Parties were able to report substantial agreement on most of the procedural issues, the Claimants' suggestion to hold the Preliminary Hearing in person could be withdrawn and a telephone hearing would suffice.
64. That same day, the Respondents sent an email indicating that they might probably have facilities in Madrid, Nigeria and Washington, D.C. and that if the issue was having the Preliminary Hearing in their facilities, they were open to work with any other video system. The Respondents further

added that if for any reason an in-person hearing was not possible for any of the participants, as an alternative, they would be in favor of including that person via videoconference .

65. On 7 November 2018, the ICDR/AAA sent an email to the Parties indicating that it awaited the Arbitral Tribunal's instructions on the time and modus of the Preliminary Hearing.
66. On that same day, the Claimants sent an email to the Arbitral Tribunal conveying the Parties' agreements and points of disagreement on procedural issues and timetable, as per the Arbitral Tribunal's communication of 21 October 2018.
67. That same day, the Arbitral Tribunal informed the Parties that the Preliminary Hearing was to be held by telephone conference on 4 December 2018, at 1 p.m., New York City time.
68. Also on that day, the ICDR/AAA sent a letter to the Parties announcing that it had scheduled the Preliminary Hearing conference call for 4 December 2018, at 1 p.m., New York City time and enclosing the Notice of Preliminary Hearing containing the dial-in details to join the conference call.

C. Draft Procedural Order No. 1 and procedural timetable

69. On 28 November 2018, the Arbitral Tribunal issued a letter to the Parties attaching a draft Procedural Order No. 1 ("**Draft PO1**") and its Annexes I (Redfern Schedule) and II (the procedural timetable). In the letter, the Arbitral Tribunal:
 - (i) Laid out its considerations in relation to the procedural issues on which the Parties had not reached an agreement;
 - (ii) Noted that it proposed, subject to the approval of all Parties, to limit the number of documents or categories of documents that might be requested to 25;
 - (iii) Noted that it had slightly modified the procedural timetable proposed by the Parties.
 - (iv) Invited the Parties to confirm and complete certain information included in Draft PO1 and to submit any comments they might have on Draft PO1 and the suggested procedural timetable, by 3 December 2018;
 - (v) Explained that Draft PO1 and the draft procedural timetable, as well as any proposed modifications, would be discussed at the Preliminary Hearing;
 - (vi) Announced that the specific dates for each step of the arbitration, as included in the suggested procedural timetable, was also to be discussed and determined at the Preliminary Hearing; and
 - (vii) Established the agenda for the Preliminary Hearing.

70. On the same day, the ICDR/AAA informed the Parties that from that day on the counsel at the ICDR/AAA responsible for the administration of this arbitration was going to be Mr Thomas M Ventrone and it provided his contact information.
71. On 3 December 2018, the Respondents sent an email to the Arbitral Tribunal with their comments on Draft PO1 and on the suggested procedural timetable and accepting the Arbitral Tribunal's proposal to limit to 25 the number of documents or categories of documents that might be requested.
72. That same day, the Claimants sent a letter to the Arbitral Tribunal with their comments on Draft PO1 and the suggested procedural timetable, as well as their position with regard to the other items included in the Arbitral Tribunal's letter of 28 November 2018.
73. On 4 December 2018, the Respondents sent an email to the Arbitral Tribunal containing certain outstanding corporate information regarding PCSNL and GE Nigeria.

D. Preliminary Hearing and Procedural Order No. 1

74. On that same day, as scheduled, the Preliminary Hearing was held by telephone. The Parties presented their respective positions, reached certain further agreements on the provisions of Draft PO1, and agreed to confer among themselves and inform the Arbitral Tribunal of any agreements they might reach on the following outstanding issues:
- (i) Insertion of language acknowledging the existence of proceedings pending before the U.S. District Court for the Southern District of New York at ¶¶24 and 34 of Draft PO1.
 - (ii) Amendment of wording in the penultimate sentence of ¶56 of Draft PO1.
 - (iii) Amendment of the dates agreed by the Parties in the procedural timetable as conveyed to the Arbitral Tribunal in the Claimants' email of 7 November 2018.
75. On 5 December 2018, the Arbitral Tribunal invited the Parties to inform it by 11 December 2018 of any agreements they might reach on the issues mentioned at ¶74 above and, to the extent they were not able to reach agreement, to submit their individual proposals. In addition, the Arbitral Tribunal invited the Parties to submit any further comments on the requirement stipulated in ¶56 of Draft PO1 that requested for production of categories of documents be "narrow and specific" and asked the Claimants to confirm whether they agreed to the proposed language in ¶16(iv) of Draft PO1.
76. On 11 December 2018, the Parties sent communications to the Arbitral Tribunal containing their respective comments on the issues outstanding after the Preliminary Hearing.

77. On 17 December 2018, the Arbitral Tribunal sent the Parties a letter dated 14 December 2018, to which it enclosed the final and executed Procedural Order No. 1, together with its annexes. In the letter, the Arbitral Tribunal:
- (i) Took note of the Claimants' communications of 3 December 2018 and 11 December 2018 requesting the inclusion of a reference to the court proceedings before the U.S. District Court for the Southern District of New York initiated by the Claimants' petition to compel the BHGE Entities to arbitrate, but conveyed that it considered that it was not appropriate to include a reference to these court proceedings in Procedural Order No. 1;
 - (ii) Expressed that it had considered the Parties' positions with regard to the penultimate sentence of ¶56 of Draft PO1, observed that for the most part the Parties were in agreement and indicated that as regards the remaining points of disagreement, the wording adopted in Draft PO1 already reflected the Claimants' proposal and was appropriate;
 - (iii) Noted that the Parties did not submit any further comments on the requirement stipulated in ¶56 of Draft PO1 that provided for production of categories of documents be "narrow and specific" and, in light thereof, confirmed that the wording in question remained that of Draft PO1;
 - (iv) Took note of the Claimants' confirmation of their agreement to the content of ¶16(iv) of Draft PO1;
 - (v) Took note of the Respondents' concerns about the absence of a confidentiality requirement in these proceedings and about their wish to re-emphasize the importance of the confidential provision that the Arbitral Tribunal originally included in ¶116 of Draft PO1, but it explained that absent a party agreement, it was not inclined to impose a general obligation of confidentiality in Procedural Order No. 1; and
 - (vi) Clarified that any suggestions by the Parties that were not included in the final version of Procedural Order No. 1 enclosed, were rejected.

E. Procedural Order No. 2

78. On 18 January 2019, the Respondents filed their Statement of Counterclaim (the "**Statement of Counterclaim**" or "**SoCC**").
79. On 15 March 2019, the Claimants filed their Statement of Claim and Statement of Defense to Counterclaim (the "**Statement of Claim**" or "**SoC**").
80. On 29 March 2019, the Claimants sent an email to the Arbitral Tribunal enclosing their "First Request for Documents/Redfern Schedule" containing their request to the Respondents for the production of documents.

81. On 31 March 2019, the Arbitral Tribunal reminded the Parties that in accordance to ¶62 of Procedural Order No. 1, with the exception of the Redfern Schedules containing the objections to the document production requests, the Parties were not supposed to copy the Arbitral Tribunal, the Tribunal Secretary or the ICDR/AAA in their correspondence or documents exchanged during the document production phase. In light thereof, the Arbitral Tribunal made clear that the documents attached to the Claimants' email of 29 March 2019 did not form part of the arbitration file.
82. On 4 April 2019, the Claimants requested, on a joint basis with the Respondents, that the Arbitral Tribunal authorize certain adjustments in the procedural timetable associated with the document production phase.
83. On that same day, the Arbitral Tribunal authorized those adjustments.
84. On 8 April 2019, the Arbitral Tribunal issued Procedural Order No. 2, containing in its Annex I an amended procedural timetable reflecting the adjustments requested by the Parties with regard to the document production phase.

F. Procedural Orders Nos. 3 and 4

85. On 12 April 2019, the Respondents sent an email attaching Respondents' Objections to Claimants' request for document production.
86. On 13 April 2019, the Claimants submitted that pursuant to the adjustment of the disclosure schedule on 4 April 2019, they understood that the Redfern Schedules should not have been sent to the Tribunal the day before, but only after the Parties' respective replies to objections to be made on 26 April 2019, and that, accordingly, they had only sent their responses and objections to the Respondents the previous night. The Claimants requested the Arbitral Tribunal to clarify this point.
87. That same day, the Arbitral Tribunal informed the Parties that it indeed wished to be copied only in the last exchange of Redfern Schedules agreed by the Parties, i.e., the replies to objections to document production requests which would be due on 26 April 2019. It further announced that a procedural order clarifying the foregoing would be issued shortly.
88. On 15 April 2019, the Arbitral Tribunal issued Procedural Order No. 3, in which it amended ¶¶61 and 62 of Procedural Order No. 1 and added a new ¶58bis, to reflect what was indicated at ¶87 above. For ease of reference, the Arbitral Tribunal further enclosed as Annex I of Procedural Order No. 3, an amended and consolidated version of Procedural Order No. 1.
89. On that same day, the Claimants sent an email noting of certain changes in their distribution list.

90. On 23 April 2019, the Presiding Arbitrator informed the Parties that in early May 2019 he would be joining Herbert Smith Freehills, that as soon as he joined that law firm he would run a conflict check and make all necessary disclosures, and that if the Parties were in the slightest uneasy with his continuance as Presiding Arbitrator, he would offer his immediate resignation.
91. On the same day, the Tribunal Secretary informed the Parties that in early May 2019 he too would be joining Herbert Smith Freehills and that as soon as he joined that law firm he would run a conflict check and make all necessary disclosures.
92. On the same day, the ICDR/AAA sent an email to the Presiding Arbitrator and the Tribunal Secretary indicating that the ICDR/AAA had advised the Parties that there should be no further direct communication with them regarding disclosures. The ICDR/AAA further noted that all disclosures had to be submitted to it for dissemination to the Parties for comment.
93. On 26 April 2019, the Parties sent their respective Redfern Schedules containing their document production requests and responses to the other Party's objections to such requests.
94. On 10 May 2019, the Presiding Arbitrator sent a letter to the ICDR/AAA in which he made a disclosure regarding this arbitration, confirmed that he remained independent and impartial and reiterated that if any of the Parties were in the slightest uneasy with his continuance as arbitrator, he would offer his immediate resignation.
95. On the same day, the Tribunal Secretary sent a letter to the ICDR/AAA in which he made a disclosure regarding this arbitration and confirmed that he remained independent and impartial.
96. On that same day, the Presiding Arbitrator sent an email to the Parties in which he informed them that on 6 May 2019 he joined Herbert Smith Freehills, provided his new contact details, and expressed that pursuant to Rule R-17 of the Rules, he had notified the ICDR/AAA of the results of the previously announced conflict check at the captioned law firm.
97. Also that day, the Tribunal Secretary sent an email to the Parties in which he informed them that on 6 May 2019 he joined Herbert Smith Freehills, provided his new contact details, and expressed that he had notified the ICDR/AAA of the results of the previously announced conflict check at the captioned law firm.
98. On 14 May 2019, the Tribunal Secretary informed the Parties that the Arbitral Tribunal's decision on the Parties' document production requests would take longer than expected. It further informed the Parties that the Arbitral Tribunal hoped to be able to issue its decision by 28 May 2019.
99. On 28 May 2019, the ICDR/AAA informed the Presiding Arbitrator that the ICDR/AAA had shared with the Parties the disclosures mentioned at ¶¶94 and 95 above and that although no challenges

were received, the Parties requested that he provide further information and disclosure regarding the matters and legal entities involved with the Parties which were listed on his letter of 10 May 2019, as well as certain assurances, if possible by 4 June 2019.

100. On 28 May 2019, the Arbitral Tribunal issued Procedural Order No. 4, containing its decision on the Parties' respective document production requests.
101. On 4 June 2019, the Presiding Arbitrator sent a letter to the ICDR/AAA providing further information, disclosure and assurances as per the request mentioned at ¶99 above.
102. On 14 June 2019, the Presiding Arbitrator sent a letter to the ICDR/AAA in which he made an additional disclosure and provided certain assurances in connection with this case.
103. On that same day, the Tribunal Secretary sent a letter to the ICDR/AAA in which he made an additional disclosure and confirmed that he remained independent and impartial.
104. On 19 June 2019, the Presiding Arbitrator sent a letter to the ICDR/AAA in which he amended the additional disclosure contained in his letter of 14 June 2019 and provided certain assurances in connection with this case.
105. On the same day, the Tribunal Secretary sent a letter to the ICDR/AAA in which he amended the additional disclosure contained in his letter of 14 June 2019 and confirmed that he remained independent and impartial.

G. Procedural Orders Nos. 5 and 6

106. On 27 June 2019, the Respondents requested authorization to file an application for a preliminary ruling on whether one of the Claimants, Greenville, could assert claims in this arbitration against any of the Respondents.
107. On 28 June 2019, the Arbitral Tribunal invited the Claimants to comment, by 5 July 2019, on the Respondents' request for authorization of 27 June 2019.
108. On 5 July 2019, the Respondents sent an email to the Claimants, copying the Arbitral Tribunal, in which, among others, they requested production of two additional categories of documents described in a Redfern Schedule attached to the email as well as their confirmation, by 10 July 2019, on whether they would be willing to voluntarily produce these documents by 19 July 2019. The Respondents announced that in case the Claimants objected to the production of the additional categories of documents, they would ask the Arbitral Tribunal to direct the Claimants to produce such documents.

109. On the same day, the Claimants sent an email opposing the Respondents' request for authorization of 27 June 2019. Moreover, the Claimants requested leave to file an application for interim relief within 10 business days of receiving approval from the Arbitral Tribunal.
110. On 9 July 2019, the Arbitral Tribunal granted the Claimants leave to file an application for interim relief by 23 July 2019.
111. On 12 July 2019, the Claimants sent an email to the Respondents, copying the Arbitral Tribunal, in which they declined to comply with the Respondents' request for production of two additional categories of documents of 5 July 2019.
112. On 23 July 2019, the Claimants filed their application for interim relief.
113. On 25 July 2019, the Arbitral Tribunal invited the Respondents to submit their answer to the application for interim relief by 23 August 2019. Moreover, the Arbitral Tribunal invited the Respondents to clarify, by 31 July 2019, the status of the request for additional document production announced in the Respondents' email of 5 July 2019.
114. On that same day, the Arbitral Tribunal invited the Parties to inform about the premises where the evidentiary hearing was to be conducted.
115. On 31 July 2019, the Claimants sent an email stating that they would revert shortly regarding the premises of the evidentiary hearing.
116. On the same day, the Respondents sent an email in which, among others, they replied to the Claimants' email of 12 July 2019, confirmed that the Claimants did not provide any documents in connection with the Respondents' request for production of two additional categories of documents of 5 July 2019, waived their request regarding the production of one of the categories of documents and expressed that they deferred to the Arbitral Tribunal with respect to the other category of documents.
117. On 6 August 2019, the Claimants requested "*that the Tribunal accelerate the deadline within which GE/BHGE must respond to the Interim Application, re-setting that deadline for Friday August 9, 2019 so that the Tribunal will be in a position to address our application within a timeframe which will enable us to secure the essential information from GE/BHGE needed to timely and safely evacuate the gas from Train 1.*" The Claimants based their request on a letter dated 26 July 2019, sent to Greenville by the Nigerian Department of Petroleum Resources, which stated, among others, "[...] *we require that you collaborate with GE and provide us within*

*two (2) weeks from the date of this letter, a plan to safely evacuate the hydrocarbon (natural gas) from Train 1."*¹⁰

118. On the same day, the Arbitral Tribunal invited the Respondents to comment on the Claimants' request by 7 August 2019.
119. On 7 August 2019, the Respondents submitted their comments in opposition to the Claimants' request.
120. On 8 August 2019, the Claimants commented on the Respondents' 7 August 2019 submission.
121. On that same date, the Arbitral Tribunal denied the Claimants' 6 August 2019 request.
122. On 21 August 2019, the Respondents filed their answer to the Claimants' application for interim relief together with a 137-page compendium of explanations, technical data and documents. In the email, the Respondents explained that they *"have provided everything in their possession that the Claimants have urgently asked the Tribunal to order the Respondents to provide on an expedited basis."*
123. On 23 August 2019, the Claimants submitted that they were in the process of reviewing the response to interim relief but had *"identified multiple inaccuracies and incomplete responses,"* and they requested an opportunity to comment.
124. On that same day, the Arbitral Tribunal invited the Claimants to submit such comments by 30 August 2019.
125. On 29 August 2019, the Claimants filed their Reply Memorandum in Support of Application for Interim Relief Reply.
126. On 31 August 2019, the Arbitral Tribunal invited the Respondents to submit their comments on the Claimants' 29 August 2019 submission by 9 September 2019.
127. On 2 September 2019, the Respondents filed their Statement of Defense to Claim and Reply on Counterclaims (the **"Statement of Defense"** or **"SoD"**).
128. On 5 September 2019, the Claimants submitted a letter in which it complained about the Respondents' document production which, allegedly, had been deficient, and requested that the Arbitral Tribunal direct the Respondents to comply fully with Procedural Order No. 4.
129. On 8 September 2019, the Arbitral Tribunal invited the Respondents to comment on the Claimants' letter of 5 September 2019 by 13 September 2019.

¹⁰ Letter from the DRP submitted with the Claimants' 6 August 2019 request, ¶3.

130. On 9 September 2019, the Claimants informed the Arbitral Tribunal about the premises where the evidentiary hearing was to be conducted.
131. On the same day, the Respondents sent an email noting that as they had stated in the cover letter accompanying the USB key containing the Statement of Defense and its exhibits, the RER-10 Report of Gareth Smith had been revised with references to exhibits in the footnotes and, therefore, they were going to upload a revised version on their file transfer site together with the previous version, for comparison.
132. On the same day, the Respondents submitted their comments on the Claimants' letter of 5 September 2019¹¹ and requested that the Arbitral Tribunal dismiss the Claimants' application for interim relief.
133. On 12 September 2019, the Claimants, unprompted by the Arbitral Tribunal, sent an email providing comments on the Respondents' submission of 9 September 2019.
134. On 13 September 2019, the Respondents submitted their comments to the Claimants' complaint of 5 September 2019 about the Respondents' document production.
135. On 18 September 2019, the Claimants, unprompted by the Arbitral Tribunal, submitted a reply to the Respondents' submission of 13 September 2019.
136. On that same day, the Arbitral Tribunal invited the Respondents to comment on the Claimant's latest submission by 24 September 2019.
137. On 24 September 2019, the Respondents submitted their comments on the Claimant's 18 September 2019 submission and they complained that the Claimants' submission was unauthorized.
138. On 8 October 2019, the ICDR/AAA sent a letter to the Parties attaching the ICDR's Notice of Hearing which indicated that the evidentiary hearing in this arbitration (the "**Hearing**") was scheduled to take place in person from 9 to 20 December 2019 at the Pace University lower Manhattan Conference Center situated at 157 William Street, New York, NY 10038.
139. On 9 October 2019, the Arbitral Tribunal issued Procedural Order No. 5, rejecting the Claimants' application for interim relief and reserving the decision concerning costs to a later point in time.
140. On 17 October 2019, the Arbitral Tribunal issued Procedural Order No. 6 in which it (i) rejected the Claimants' request regarding the supposedly deficient document production by the Respondents, (ii) admitted into the file certain documents submitted by the Respondents, (iii)

¹¹ This submission sent on 9 September 2019 bears the date "September 2, 2019."

authorized the Respondents to submit an updated version of Exhibit RWS-8, and (iii) clarified that certain documents did not form part of the arbitration file.

141. On 24 October 2019, the Respondents submitted an updated version of Exhibit RWS-8.
142. On 4 November 2019, the Arbitral Tribunal invited the Parties to confer to try to reach agreements on certain issues concerning the Hearing and to inform the Arbitral Tribunal as soon as practicable. Moreover, the Arbitral Tribunal reminded the Parties about the need for them to provide during the Hearing court reporters and a qualified person to administer oaths, and it requested that the Parties inform it about the arrangements made in that regard.

H. Arbitral Tribunal's Subpoena and request for site visit

143. On 6 November 2019, the Claimants requested the Arbitral Tribunal to issue a subpoena to Chart Industries Inc. and Chart Energy and Chemicals Inc. (together, "**Chart**") in connection with the production of documents identified in a certain email from Freehill Hogan & Mahar, LLP to Chart dated 23 October 2019.
144. On 7 November 2019, the Arbitral Tribunal invited the Respondents to comment by 11 November 2019 on the Claimant's request.
145. On 10 November 2019, the Claimants sent an email to the Arbitral Tribunal stating that they had offered the Respondents to jointly propose to the Arbitral Tribunal to conduct a site visit of the Rumuji Plant in early January 2020, to which the Respondents had agreed, and it asked the Arbitral Tribunal to advise about its availability to visit the site.
146. On 11 November 2019, the Respondents sent an email making clear that they had requested the Claimants' permission for their experts to visit the Rumuji site once all expert reports had been submitted and before the Hearing, but the Claimants had denied their request adducing that they would accept only an inspection by the Arbitral Tribunal jointly proposed by the Parties. The Respondents further explained that they had consented to a site visit by the Arbitral Tribunal to the extent it was conducted before the Hearing. Accordingly, the Respondents stated that they saw no value in conducting a site visit after the Hearing, but indicated that if the Arbitral Tribunal still wished to travel to Rumuji after the Hearing, it would not object to it.
147. On the same day, the Claimants commented on the clarifications provided by the Respondents earlier that day and attached the correspondence exchanged between the Parties regarding the site visit.
148. That same day, the Arbitral Tribunal expressed that it concurred with the Respondents that a site visit of the Rumuji Plant would only make sense if conducted ahead of the Hearing, in which case the time slot scheduled at that time for the Hearing would have to be used for the site visit

and the Hearing would have to be rescheduled to a later point in time. Further, the Arbitral Tribunal invited the Parties to state their positions on the foregoing, by 14 November 2019, and noted that only if all Parties unanimously agreed to conducting a site visit in the time slot scheduled for the Hearing and to rescheduling the Hearing to a later point in time, the Arbitral Tribunal would consider having a site visit and, but that, absent unanimity, the procedural calendar would remain unchanged.

149. Also on that day, the Respondents submitted their comments on the Claimant's request that the Arbitral Tribunal issue a subpoena. The Respondents stated, among others, that they did not object to Chart providing to the Claimants –along with the Respondents– certain documents whose production the Claimants' had requested, and that Chart had been previously informed of the Respondents' consent to the production.
150. On the same day, the Arbitral Tribunal issued the subpoena as per the Parties' agreement.
151. On 14 November 2019, the Respondents informed the Arbitral Tribunal that they did not believe the Hearing should be rescheduled to accommodate a site visit by the Arbitral Tribunal and insisted that the Respondents had only consented to the Claimants' proposal for the Arbitral Tribunal to visit the site because it was the only basis on which the Claimants would grant their experts access to the site.
152. On the same day, the Claimants sent an email to the Arbitral Tribunal indicating that they were in receipt of the Respondents' position regarding the site visit and that, in light of the Arbitral Tribunal's instruction concerning the issue at hand, they understood that the Respondents' answer resolved the question.
153. On 15 November 2019, the Arbitral Tribunal informed the Parties that the pre-hearing conference scheduled on 27 November 2019 was to be held at 12:30 p.m. New York time and that an agenda, as well as dial-in details, were to be circulated once the Parties had submitted their notification of witnesses and experts for cross-examination and their comments on certain issues concerning the Hearing as per the Arbitral Tribunal's email of 4 November 2019.
154. On 16 November 2019, the Claimants filed their Statement of Reply.
155. On that same day, the Arbitral Tribunal sent an email to the Claimants regarding certain issues with the Claimants' exhibits and the Claimants replied to the said email.

I. Pre-hearing conference

156. On 19 November 2019, the Claimants informed the Arbitral Tribunal about the court reporting services agreed by the Parties for the Hearing.

157. On 21 November 2019, the Claimants sent an email to the Arbitral Tribunal conveying the Parties' agreements and points of disagreement on certain issues concerning the Hearing as per the Arbitral Tribunal's email of 4 November 2019.
158. That same day, the Respondents commented on the Claimants' correspondence of earlier that day and provided the order in which they wished their witnesses be examined.
159. On the same day, the Respondents sent an email indicating that the Claimants had consented that they file further documentary evidence before the cut-off date and attached such exhibits.
160. On that same day, the Claimants sent an email indicating that the Respondents had consented that they file further documentary evidence before the cut-off date and attached an exhibit.
161. On 22 November 2019, several emails were exchanged between the Arbitral Tribunal and the Parties regarding certain issues with the Claimants' exhibits. The Arbitral Tribunal also requested the Parties to provide updated lists of exhibits.
162. On 25 November 2019, the Arbitral Tribunal issued a letter to the Parties (the "**Hearing Directions' Letter**") in which it:
- (i) Took note of the issues concerning the Hearing on which there was an agreement among the Parties;
 - (ii) Gave directions on the issues where the Parties could not reach an agreement;
 - (iii) Invited the Parties to submit by 3 December 2019 the list of persons (legal teams and other Party representatives) who would be attending the Hearing and a joint proposal for a tentative hearing schedule;
 - (iv) Reminded that the pre-hearing conference was scheduled to take place on 27 November 2019 at 12:30 p.m. New York time;
 - (v) Shared the dial-in details to join the pre-hearing conference; and
 - (vi) Provided an agenda for the pre-hearing conference.
163. On 27 November 2019, the Respondents provided updated lists of exhibits as per the Arbitral Tribunal's emails of 22 November 2019.
164. On that same day, as scheduled, the pre-hearing conference was held by telephone.
165. Later on that same day, the Arbitral Tribunal:
- (i) Took note of the Claimants' confirmation, given at the pre-hearing conference, that they would cross-examine the Respondents' fact witness in the order set out at ¶8 of the Arbitral Tribunal's 25 November 2019 letter;

- (ii) Emphasized, as it had expressed during the pre-hearing conference, that the requirement that witnesses be heard under oath was not included in the Arbitral Tribunal's original Draft PO1, but was included in ¶¶99 of Procedural Order No. 1 at the Claimants' request and in accordance to Rule R-27 of the Rules and, therefore, it invited the Parties to inform it whether they wished to amend ¶¶99 of Procedural Order No.1 by mutual agreement to strike such requirement;
- (iii) Invited the Parties to inform it whether they wished to amend ¶¶54 of Procedural Order No. 1 by mutual agreement to stipulate that if a Party or its experts intend to use demonstrative exhibits for their opening statements/introductory presentations, that Party had to submit such exhibits to the Arbitral Tribunal, the Tribunal Secretary and the opposing counsel on the eve of the day on which such exhibits were to be used; and
- (iv) Reminded the Parties that, as per ¶¶34 to 36 of the Arbitral Tribunal's 25 November 2019 letter, they were to submit, by 3 December 2019, the list of persons who would be attending the Hearing; as well as a joint proposal for a tentative hearing schedule.

J. The Hearing

- 166. On 2 December 2019, the Claimants sent an email to the Arbitral Tribunal regarding certain corrections to their exhibits.
- 167. That same day, the Claimants sent a letter to the Arbitral Tribunal announcing that they would use a 3D model of the Rumuji LNG Project at the Hearing and that their witness, Werner Pirijns, would bring to the Hearing certain sections of the MRC¹² Motor Electrical Cables and the Transformer Cables, as discussed in ¶¶4.37 of his second witness statement (Exhibit CWS-12). Moreover, the Claimants informed the Arbitral Tribunal that they had decided not to cross-examine the Respondents' fact witness Mr Alessandro Bresciani.
- 168. On 3 December 2019, the Respondents sent an email noting that ¶¶75 of Procedural Order No. 1 vested the Arbitral Tribunal with an independent right to require the appearance of witnesses even when the opposing Party had waived the right of examination and requesting the Arbitral Tribunal's guidance as to whether the Respondents could release Mr Bresciani from attending the Hearing.
- 169. On that same day, the Arbitral Tribunal released Mr Bresciani from attending the Hearing.
- 170. That same day, the Arbitral Tribunal noted that some of the witness statements and expert reports in the lists of exhibits attached to the Claimants' email of 2 December 2019 were

¹²

Mixed Refrigerant Compressor ("MRC").

- numbered incorrectly and, in light of that, it invited the Claimants to review those lists and submit corrected versions.
171. Also on that day, the Respondents provided the list of persons on their side who were attending the Hearing, reported that they had discussed a tentative hearing schedule with the Claimants and were awaiting for their comments in that regard. Moreover, the Respondents informed the Arbitral Tribunal about certain obstacles preventing the timely issuance of a visa for their fact witness Mr Ali Kassem to enter the USA to attend the Hearing and about the possibility that Mr Kassem be heard at the Hearing by videoconference.
172. Later on that same day, the Claimants provided the list of persons who were attending the Hearing on their side and informed the Arbitral Tribunal:
- (i) About the Parties' agreements regarding the tentative hearing schedule, which was subject to the caveat that depending on the length of examinations, the witnesses could end up appearing a little earlier or later;
 - (ii) That the Parties had agreed that the demonstratives to be used by the expert witnesses were going to be exchanged at 8 p.m., on the night before the presentations, but the demonstratives to be used in openings statements were not to be exchanged by the Parties the evening before; and
 - (iii) That with regard to ¶99 of Procedural Order No. 1, the Parties had agreed that fact witnesses would be sworn to testify under oath, although not a religious one.
173. On 4 December 2019, the Arbitral Tribunal invited the Claimants to comment by that day, on the issue raised by the Respondents in their email of 3 December 2019 regarding the difficulties in timely obtaining a US visa for Mr Kassem and the possibility that Mr Kassem be heard at the Hearing by videoconference.
174. That same day, the Arbitral Tribunal noted that the Parties had not reached an agreement to strike the requirement in ¶99 of Procedural Order No. 1 that witnesses be heard under oath and that they had agreed that the oath was to be non-religious. Further, the Arbitral Tribunal reminded that, as per the said ¶99 of Procedural Order No. 1, the Parties were to provide a duly qualified person to administer the oaths at the Hearing.
175. Also on that day, the Arbitral Tribunal took note of the Parties' joint tentative schedule for the Hearing. The Arbitral Tribunal further reminded the Parties that the daily schedule would be from 9 a.m. to 5 p.m., with a 1-hour break for lunch and other shorter breaks when necessary, and that, unless the Arbitral Tribunal finally took up less time than it had allotted for itself, each side's total time for opening statements, direct examinations, presentations in lieu of direct

- examinations, cross-examinations, re-direct examinations and re-cross examinations would be limited to 22 hours.
176. That day, the Respondents sent an email to the Claimants, copying the Arbitral Tribunal, in which they asked the Claimants to inform them of the affiliations of each of the persons listed to attend the Hearing on their side.
177. Later that day, the Claimants sent an email to the Respondents, copying the Arbitral Tribunal, in which they informed them of the affiliations of each of those persons.
178. Also on that day, the Claimants commented on the issue raised by the Respondents regarding the difficulties in timely obtaining a US visa for Mr Kassem and the possibility that Mr Kassem be heard at the Hearing by videoconference.
179. On 5 December 2019, the Arbitral Tribunal informed the Parties that it concurred with the Claimants' preference for Mr Kassem testifying in person and it further encouraged the Respondents to continue attempting to expedite the process to have Mr Kassem's visa issued promptly. Nevertheless, the Arbitral Tribunal added that in the event that despite the Respondents' efforts Mr Kassem's visa were not to be obtained in time, it would consider the situation as an exceptional circumstance and, therefore, it would permit Mr Kassem being heard by videoconference pursuant to ¶74 of Procedural Order No. 1. Finally, the Arbitral Tribunal invited the Parties to confer among themselves about the arrangements that might be needed in case that Mr Kassem finally were to be heard by videoconference.
180. On that same day, the Respondents updated the Arbitral Tribunal on the actions being taken to expedite the issuance of Mr Kassem's visa and announced that they had begun investigating the possibility of a video link to hear the witness by videoconference and that they would confer with counsel for the Claimants in that regard.
181. On 5 and 6 December 2019, the Claimants and the members of the Arbitral Tribunal exchanged emails regarding certain details of the court reporting services hired for the Hearing.
182. Also on these days, the arbitrators expressed their preference on certain aspects regarding the court reporting services hired for the Hearing.
183. On 6 December 2019, the Respondents updated the Arbitral Tribunal on the status of Mr Kassem's visa application and informed the Arbitral Tribunal about the contingency arrangements they were making in case that Mr Kassem finally were to be heard by videoconference.
184. On 8 December 2019, the Claimants provided revised lists of exhibits as per the Arbitral Tribunal's email of 3 December 2019.

185. From 9 to 20 December 2019, the Hearing was held in New York City.
186. After each Hearing day, the court reporter, Ms Linda Russell, circulated that day's transcript.
187. Also after each Hearing day, except the first and the last day, the Tribunal Secretary sent an email to the Parties reporting the time used by each side at the Hearing and the time remaining for each side.
188. On 9 December 2019, the Respondents sent an email attaching their opening statement presentation and Exhibit R-314.¹³
189. On 11 December 2019, the Respondents sent an email attaching the presentation of Mr John Middleton for his testimony on the following day.
190. On that same day, the Claimants sent an email attaching the presentation of Mr Scott Wright for his testimony on the following day.
191. On that same day, the Respondents sent an email attaching a shorter version of the presentation of Mr Middleton.
192. On 12 December 2019, the Claimants submitted their demonstrative exhibits C-D20 to C-D29 of that day and the day before.
193. On that same day, the Respondents confirmed that Mr Kassem would have to be heard by videoconference.¹⁴
194. On 15 December 2019, the Respondents sent an email attaching the presentation of Mr Gareth Smith for his testimony on the following day.
195. On that same day, the Claimants sent an email attaching the presentation of Mr Peter Lumley for his testimony on the following day.
196. On 16 December 2019, the Claimants sent emails attaching the presentations of Messrs Brian Dunagan and Robert Caligiuri for their testimonies on the following day.
197. Also on that day, the Respondents sent emails attaching the presentations of Messrs Stephen Linwood, Chris Googan, Kevin Slater and Alan Borrowman for their testimonies on the following day.
198. On 17 December 2019, the Respondents sent an email attaching the presentation of Mr Jeff Blinkhorn for his testimony on the following day.

¹³ To which submission the Claimants did not object (see Transcript of the Hearing held in New York City between 9 and 20 December 2020 ("Tr.") Day 1, 188:5-20).

¹⁴ See Tr. Day 4, 195:22-25.

199. On that same day, the Claimants sent an email attaching the presentation of Mr John Lancaster for his testimony on the following day.
200. On 18 December 2019, the Claimants attached their demonstrative exhibits C-D30 to C-D32 from Mr Smith's cross-examination of 16 December 2019.
201. Also on that same day, the Arbitral Tribunal requested the Parties to arrange, if possible, for Mr Lapuerta and Ms Linnell to be available to give testimony on the following day in case that turned out to be possible without departing from the principle that all experts on a given issue were to be heard on the same day.
202. On that same day, the Claimants sent emails attaching the presentations of Ms Bente Villadsen and Mr Matthew Will for their testimonies on the following day and confirming Mr Lapuerta's availability to give testimony on the following day, if required.
203. On that same day, the Respondents sent emails attaching the presentation of Mr Chris Hillier for his testimony on the following day and confirming Ms Linnell's availability to give testimony on the following day, if required.
204. During the Hearing, it was agreed that an additional hearing for oral closing arguments would be held in Milan, at the premises of the Milan Chamber of Arbitration, on 21 January 2020, from 9:00 a.m. to 5:00 p.m. CET¹⁵ (the "**Additional Hearing**").
205. On 19 December 2019, the Arbitral Tribunal invited the Parties to inform it about the number of persons that were attending the Additional Hearing and whether breakout rooms would be needed. The Arbitral Tribunal further informed the Parties that, unless agreed otherwise by them, real-time transcription would not be required for the Additional Hearing, but audio was to be recorded and subsequently transcribed. Finally, the Arbitral Tribunal provided the contact details of the agency which the Milan Chamber of Arbitration used for audio-recording and transcription and attached to the email a list of hotels with which the Milan Chamber of Arbitration had agreements for preferential rates.
206. On that same day, the Respondents sent an email informing the Arbitral Tribunal of the number of persons that would attend the Additional Hearing on their behalf and expressing that they would require a small break-out room and that they did not need real-time transcription.
207. That same day, the Respondents sent an email attaching the presentation of Ms Kay Linnell for her testimony on the following day.

¹⁵ Tr. Day 5, 5:6-7:5, 144:17-146:17; T. Day 6, 124:12-127:17, Tr. Day 8, 4:2-6:8; Tr. Day 9, 189:14-190:4; Tr. Day 10, 223:13-24.

208. Also on the same day, the Claimants sent an email attaching the presentation of Mr Carlos Lapuerta and an errata sheet for his testimony on the following day.

K. Procedural Order No. 7

209. On 23 December 2019, the Arbitral Tribunal reminded the Parties about the date and place of the Additional Hearing and it noted that it would circulate further details in due course, including the hearing schedule and the list of questions it wished for the Parties to address in their oral closing arguments.
210. Also on that day, the Arbitral Tribunal asked the Parties to submit a jointly-agreed final consolidated version of the Hearing transcripts, if possible, by 7 January 2020.
211. On that same day, the Claimants informed the Arbitral Tribunal about the number of persons that would attend the Additional Hearing on their behalf and that they wished to have the Additional Hearing be transcribed with LiveNote. They further asked for the Arbitral Tribunal's confirmation that the transcription services had to be arranged by the Parties, with costs shared subject to an allocation of costs in the final award.
212. That same day, the Arbitral Tribunal confirmed that the recording and transcription services for the Additional Hearing were to be arranged by the Parties and that the cost of such services was to be advanced by them in equal shares, without prejudice to the decision of the Arbitral Tribunal on the allocation of the costs of the arbitration. Moreover, it enclosed the email referred to at ¶205 above and noted that Mr Azzali had received information that the agency therein mentioned also offered LiveNote transcription services.
213. On 29 December 2019, the Arbitral Tribunal sent an email to the Parties noting that it had been informed that the Respondents had not yet paid upon the last request for a deposit made by the ICDR/AAA and expressing that, unless full payment of the deposits for arbitrator compensation was received by 10 January 2020, the proceedings would be suspended pursuant to Rule R-57(e) of the Rules and that such suspension might entail a postponement or cancellation of the Additional Hearing.
214. On 30 December 2019, the Respondents informed the Arbitral Tribunal that the payment of the last request for a deposit made by the ICDR/AAA was in process at the time of the Hearing, that it could be caught in the year end payment cycle and that they would provide at their earliest opportunity the payment date.
215. On 30 December 2019, the Respondents provided an update on the payment of the last request for a deposit made by the ICDR/AAA.

216. On 31 December 2019, the Tribunal Secretary requested the Claimants to provide by email a soft copy of the opening presentation they used at the Hearing.
217. On 2 January 2020, the Claimants confirmed that a soft copy of their opening presentation binder was contained on the USB drive that also contained the witness cross-examination bundles, which they provided on the Hearing.
218. Also on that day, the ICDR/AAA sent a letter to the Parties to which it enclosed an ICDR's Notice of Hearing with the details of the Additional Hearing.
219. On 3 January 2019, the Tribunal Secretary and the Claimants exchanged emails on where Mr Pirijns's video played at the beginning of Claimants' opening presentation could be found.
220. That day, the Respondents informed the Arbitral Tribunal that the payment of the last request for deposit made by the ICDR/AAA had been initiated the day before and that it would take approximately two business days for the funds to reach the ICDR/AAA's account.
221. Also on that day, the ICDR/AAA sent an email indicating that it would monitor the payments received by it and revert upon receipt of the Respondents' payment.
222. On 6 January 2020, the Arbitral Tribunal issued Procedural Order No. 7, in which it:
- (i) Convened the Parties' counsel to the Additional Hearing;
 - (ii) Allocated the time of the Additional Hearing;
 - (iii) Invited the Parties to address at the Additional Hearing the questions set out in the non-exhaustive list attached as Annex I of Procedural Order No. 7; and
 - (iv) Ordered that ¶105 of Procedural Order No. 1, on recording and transcription, was to apply to the Additional Hearing.

L. The Additional Hearing

223. On 7 January 2020, the Claimants expressed that it was their understanding that other Claimants' representatives, aside from counsel, could attend the Additional Hearing, and asked for the Arbitral Tribunal's confirmation on whether their understanding was correct.
224. On that same day, the ICDR/AAA confirmed receipt of the Respondents' pending payment.
225. Also on that day, the Arbitral Tribunal confirmed that the Claimants' understanding on their email of 7 January 2020 was correct.
226. On 8 January 2019, the Arbitral Tribunal asked the Parties to inform it about the status of the jointly-agreed final consolidated version of the Hearing transcripts and of the date on which they estimated it would be provided, and kindly invited the Parties to submit them by 14 January 2020.

227. On that same day, the Arbitral Tribunal informed the Parties about the exact location of the Additional Hearing, provided certain instructions in relation to it, and invited the Parties to inform it of the final number of attendees and their names by 16 January 2020.
228. Also on that day, the Claimants informed the Arbitral Tribunal that the Parties intended to submit the jointly-agreed final consolidated version of the Hearing transcripts by 13 January 2020.
229. On 13 January 2020, the Claimants filed a table containing the Hearing transcript corrections to which the Parties had agreed.
230. On 14 January 2020, the Arbitral Tribunal reminded the Parties about its request that they provide a final consolidated version of the Hearing transcripts as earliest as possible.
231. On 15 January 2020, the Claimants informed that the Hearing transcripts would be submitted on the following day.
232. On 16 January 2020, the Claimants submitted the final consolidated version of the Hearing transcripts for the first five days of the Hearing and announced that they expected to submit the transcripts for the second week of the Hearing on the following day at the latest.
233. On that same day, the Respondents informed the Arbitral Tribunal of the names of the persons who were attending the Additional Hearing on their side.
234. On 17 January 2020, the Tribunal Secretary reminded the Parties to inform the Arbitral Tribunal, at their earliest convenience, about the name of the services provider(s) and of the services requested for the Additional Hearing and asked them to direct the services provider(s) to get in touch with Mr Azzali or with the Tribunal Secretary. The Tribunal Secretary also provided certain information regarding the Additional Hearing venue and reminded the Claimants of the Arbitral Tribunal's request to be informed of the final number of attendees on their side and their names.
235. That same day, the Claimants submitted small sized corrected versions of the transcripts for the second week of the Hearing and announced that the regular/full size versions of those transcripts would be provided as soon as they were available.
236. Also on that day, the Claimants submitted Exhibit C-1176 (Brattle's BR-143U) and explained that an unnumbered version of the same exact exhibit had been provided to the Respondents by email during the Hearing.¹⁶
237. On 19 January 2020, the Respondents informed the Arbitral Tribunal about the court reporting and related services hired for the Additional Hearing.

¹⁶ See Tr. Day 10, 109:8-111:10.

238. Also on that day, the Claimants informed the Arbitral Tribunal of the names of the persons who would be attending the Additional Hearing on their side.
239. On 20 January 2020, the Claimants submitted the final consolidated version of the transcripts for the second week of the Hearing.
240. On 21 January 2020, the Additional Hearing took place in Milan, Italy.
241. Later that day, the Claimant's sent an email to the Respondents, copying the Arbitral Tribunal, attaching certain invoices which had been discussed at the Additional Hearing.¹⁷
242. On 22 January 2020, the Arbitral Tribunal reminded the Parties of the decisions taken at the end of the Additional Hearing. Specifically, the Arbitral Tribunal mentioned that
- (i) There would be two rounds of post-hearing briefs to be filed simultaneously.
 - (ii) The first post-hearing briefs should not exceed 75 pages and was to be submitted by 3 March 2020.
 - (iii) The second post-hearing briefs should be limited in scope to the issues addressed by the opposing parties in their first post-hearing briefs, should not exceed 40 pages and was to be submitted by 24 March 2020.
 - (iv) The Parties should attempt to agree on a joint proposal regarding the scope and the date of filing of the cost submissions and were to inform the Arbitral Tribunal of such joint proposal or of their failure to reach an agreement by 4 February 2020.
 - (v) The Parties would be allowed to send their post-hearing briefs and cost submissions to the Arbitral Tribunal, the ICDR/AAA and the Tribunal Secretary only, who would forward them to the opposing Parties.
243. On 23 January 2020, in response to the Respondents' inquiry made at the end of the Additional Hearing concerning the Arbitral Tribunal's cost decision, the Arbitral Tribunal informed the Parties that it was inclined to apply the costs-follow-the-event rule, albeit with some flexibility to account for any other aspects it might deem relevant. Nevertheless, the Arbitral Tribunal clarified that the foregoing should not be construed as a limitation to its discretion under Rule R-47(c) of the Rules to decide on costs in any way it determined appropriate, including the application of a different cost allocation rule, once it had had opportunity to deliberate.
244. On 26 January 2020, the court reporter, Ms Yvonne Vanvi, circulated the transcripts of the Additional Hearing.

¹⁷ See below, ¶¶256 *et seq.*

M. First post-hearing briefs, Procedural Orders Nos. 8 and 9

245. On 4 February 2020, the Claimants informed the Arbitral Tribunal that the Parties were working towards an agreement regarding the timing and procedures for the cost submissions and asked that the deadline to submit their views on the issue be extended to 7 February 2020.
246. On the same day, the Arbitral Tribunal granted the said request.
247. On 7 February 2020, the Claimants requested, on behalf of the Parties, a few further days to provide their views regarding the timing and procedure for the cost submissions.
248. On that same day, the Arbitral Tribunal granted the said request.
249. On 18 February 2020, the Claimants sent an email to the Arbitral Tribunal conveying the agreements reached by the Parties on the timing and procedure for the cost submissions.
250. On 3 March 2020, the Respondents filed their first post-hearing brief ("**Respondents' First Post-Hearing Brief**" or "**Rs' PHB1**")
251. Also on that day, the Claimants filed their first post-hearing brief ("**Claimants' First Post-Hearing Brief**" or "**Cs' PHB1**").
252. On 4 March 2020, the Tribunal Secretary forwarded the Parties' First Post-Hearing Briefs to the opposing Parties.
253. On 12 March 2020, the Arbitral Tribunal issued Procedural Order No. 8, in which it took note of and accepted the Parties' agreements on the timing and procedure for the cost submissions.
254. On 20 March 2020, the Claimants sent an email to the Arbitral Tribunal stating that the Respondents had requested their consent to a two-week adjournment on the submission of the second post-hearing briefs, in view of the situation resulting from the Covid-19 pandemic. The Claimants consented to the Respondents' request.
255. On 22 March 2020, the Arbitral Tribunal sent an email to the Parties in which it took note of the Claimants' correspondence of 20 March 2020 and granted the Parties a two-week adjournment of the second post-hearing briefs. The Arbitral Tribunal also postponed subsequent deadlines accordingly.
256. On 27 March 2020, the Arbitral Tribunal sent an email to the Parties in reference to the Claimants' new claim for additional damages for take-or-pay costs as per ¶235 (i) of the Claimants' First Post-Hearing Brief and to the Respondents' objection in ¶203 and their submissions in ¶¶209-210 of the Respondents' First Post-Hearing Brief, and informed them that if, after consideration, the Arbitral Tribunal were to find the said new claim to be admissible, it would invite further submissions from the Parties.

257. On 6 April 2020, the Claimants sent an email to the Arbitral Tribunal in which they stated:
- (i) That despite TOTAL's threat to imminently draw down the security, such draw down had not occurred;
 - (ii) That, as a result the above, they agreed that the award of a sum certain on their take-or-pay claim would still be premature;
 - (iii) That they sought to avoid anything that might delay issuance of an award on the claims that, as of that date, were ripe for decision;
 - (iv) That they had agreed to withdraw without prejudice their request for relief in Paragraph 235 (i) of Claimants' First Post-Hearing Brief as not yet ripe, preserving the right to renew it if a take or pay payment later had to be made; and
 - (v) That they asked that the Arbitral Tribunal (i) issue a partial final award –designated as such– on all of Claimants' claims that, as of that date, were ripe for decision, as reflected in all but ¶235 (i) of the request for relief in the Claimants' first post-hearing brief, and on the Respondents' counterclaims, and (ii) retain jurisdiction for a period of up to 12 months, subject to either Party's request for relief, to resolve any disputes that might thereafter ripen.
258. On that same day, the Arbitral Tribunal stayed all pending deadlines until further notice and invited the Respondents to comment, by 14 April 2020, on the Claimants' correspondence submitted earlier that day.
259. On 14 April 2020, the Respondents submitted their comments to the Claimants' email of 6 April 2020.
260. On 15 April 2020, the Arbitral Tribunal invited the Claimants to submit their comments to the Respondents' submission of 14 April 2020 by 20 April 2020, and, in turn, it also invited the Respondents to reply by 24 April 2020.
261. On 20 April 2020, the Claimants submitted their comments to the Respondents' submission of 14 April 2020.
262. On 24 April 2020, the Respondents submitted their reply to the Claimants' submission of 20 April 2020.
263. On 3 May 2020, the Arbitral Tribunal issued Procedural Order No. 9, in which it decided, among others:
- (i) To not give its consent to the submission of the new claim made in ¶235(i) of the Claimants' First Post-Hearing Brief;

- (ii) To deny the Claimants' request that the Arbitral Tribunal retain jurisdiction for a period of up to 12 months, subject to either party's request for relief, to resolve any disputes that may hereafter ripen;
- (iii) To set new deadlines for the second round of post-hearing briefs and cost submissions.

N. Second post-hearing briefs and cost submissions

- 264. On 8 May 2020, the Respondents filed the Respondents' Second Post-Hearing Brief.
- 265. That same day, the Claimants filed their Reply to Respondents' First Post-Hearing Brief ("**Claimants' Second Post-Hearing Brief**" or "**Cs' PHB2**").
- 266. On 9 May 2020, the Tribunal Secretary forwarded the Parties' Second Post-Hearing Briefs to the opposing Parties.
- 267. On 29 May 2020, the Respondents filed their Cost Submission ("**Respondents' Cost Submission**").
- 268. That same day, the Claimants filed their Submission on Fees and Costs ("**Claimants' Cost Submission**").
- 269. On 30 May 2020, the Tribunal Secretary forwarded the Parties' Cost Submissions to the opposing Parties.
- 270. On 31 May 2020, the Respondents sent an email to the Tribunal Secretary requesting that the breakdown referred to at ¶20 of the Claimants' Cost Submission be released to the Respondents at the earliest.
- 271. That same day, the Tribunal Secretary replied to the Respondents confirming that the only document received with the Claimants' email of 29 May 2020 was the Claimants' Cost Submission.
- 272. On 1 June 2020, the Respondents sought leave from the Arbitral Tribunal in order to address the issues that arose from the Claimants' Cost Submission.
- 273. That same day, the Parties were granted leave to comment on each other's cost submissions by 5 June 2020.
- 274. On 5 June 2020, the Respondents filed their Comments on Cost Submission.
- 275. That same day, the Claimants filed their Response to Respondents' Cost Submission.
- 276. On 6 June 2020, the Tribunal Secretary forwarded the Parties' 5 June 2020 submissions to the opposing Parties.

O. Final submissions and closing of the Hearing

277. On 9 July 2020, the Claimants sent an email to the Arbitral Tribunal stating that both the Claimants and the Respondents understood that the 60-day period established in ¶116 of Procedural Order No. 1 to render the award would have begun to run upon the Parties' submission of their Second Post-Hearing Briefs on 8 May 2020 and that the Parties requested that the Tribunal provide them with guidance regarding the anticipated award date.
278. On that same day, the Respondents confirmed the joint request.
279. On 10 July 2020, the Arbitral Tribunal informed the Parties that its deliberations were ongoing and that it had thus far intentionally refrained from declaring the proceedings closed since it did not rule out inviting the Parties to make further submissions. The Arbitral Tribunal added that it understood that the 60-day period established in ¶116 of Procedural Order No. 1 had not yet begun to run. But it informed the Parties that it anticipated that it would soon be in a position to either invite the Parties to make further submissions or to declare the hearing closed as per Rule R-39(b) and, if so, it did not anticipate that it would require more than the 60 days foreseen to issue a final award.
280. On 28 July 2020, the Arbitral Tribunal issued Procedural Order No. 10, in which it invited the Parties to make most brief submissions, by 30 July 2020, with regard to two specific issues.
281. On 30 July 2020, the Respondent submitted their Answers to Procedural Order No. 10, together with three documents.
282. On the same day, the Claimants submitted their Response to Procedural Order No. 10.
283. On 31 July 2020, the Arbitral Tribunal declared the hearing closed as of 30 July 2020, pursuant to Rule R-39(b) of the Rules. Moreover, as per the Parties' Agreements reflected in ¶116 of Procedural Order No. 1, it extended the period for rendering the final award to 60 days from the closing of the hearing. Finally, it informed the Parties that while it did not anticipate that further extensions would be necessary, it did not rule them out.
284. On 26 September 2020, as per the Parties' agreements reflected in ¶116 of Procedural Order No. 1, the Arbitral Tribunal (i) informed the Parties that it anticipated to render the final award by 30 October 2020 and, thus, it (ii) extended the period for rendering the final award to 30 October 2020.

VIII. FACTUAL BACKGROUND

285. The dispute between the Parties arises from (i) a contract for the sale of two fully-modular small scale LNG production plants or trains ("**Train 1**" and "**Train 2**," and together, the "**Trains**") for

- use in the LNG plant in Nigeria, located in Rumuji, Rivers State (the “**Rumuji Plant**”),¹⁸ for a Contract Price of 95,000,000.00 USD,¹⁹ entered into between GEOG and IEC on 13 September 2014 (previously defined as the “Equipment Contract”),²⁰ (ii) a services agreement entered into the same day between GE Nigeria and IEC, for the purpose of on-site supervision in Rumuji, Nigeria, of the installation, start-up, commissioning and testing of the Trains, as well as the training of IEC employees to ensure that the Trains were properly installed and functioned to their designed and warranted capacities (previously defined as the “Services Agreement”),²¹ and (iii) an agreement of the same date by which GEOG guaranteed to IEC the performance of GE Nigeria's obligations under the Services Contract (previously defined as the “Guarantee”).²²
286. IEC is a privately held company that is ultimately majority-owned by Mr Eddy Van den Broeke.²³ IEC holds, indirectly, 100 percent of the outstanding shares of Greenville.²⁴ Greenville is a Nigerian company that operates the group's LNG business in Nigeria.²⁵
287. Up until 2015, the IEC group's principal business had been bitumen in West Africa.²⁶ In 2014, IEC decided to sell the business, and to dedicate the sales proceeds to the purchase and installation of a plant that would liquefy natural gas arriving by pipeline at its site in Rumuji.²⁷ IEC would install local LNG storage units at the customer sites,²⁸ and the LNG would be delivered to the customers in specialized trucks.²⁹ The customers could use the LNG largely as a substitute for diesel fuel.³⁰
288. GEOG was an affiliated company of the General Electric Company and it operated under the umbrella of “GE Oil & Gas.”³¹ GE Nigeria is an affiliate of GEOG.³²
289. In 2013, GEOG acquired the assets of the Salof Companies, a designer and manufacturer of small-scale LNG plants based in Schertz, Texas.³³ Salof had a long history manufacturing fully-

18 SoC, ¶16.
 19 Equipment Contract, Clause 7.1.
 20 Equipment Contract, Recitals.
 21 Exhibit C-2, Recitals.
 22 Exhibit C-3, Recitals.
 23 SoC, ¶13.
 24 SoC, ¶14.
 25 SoC, ¶14.
 26 SoC, ¶42.
 27 Exhibit CER-4, ¶24.
 28 Exhibit CER-4, ¶¶5, 20.
 29 Exhibit CER-4, ¶5.
 30 Exhibit CER-4, ¶5.
 31 SoCC, ¶17.
 32 SoCC, ¶3.
 33 SoCC, ¶17; SoC, ¶56.

- modularized, skid-based CO₂ liquefaction units, and had been working with Shell since 2011 to develop a fully-modularized, skid-based, 0.25 MTPA,³⁴ LNG liquefaction plant.³⁵
290. In July 2017, the General Electric Company and Baker Hughes, Inc. merged and contributed their respective oil and gas businesses (including GEOG) to the newly formed BHGE LLC,³⁶ which is held by the holding company BHGE.³⁷
291. The parties met for the first time when Mr van den Broeke and other representatives of IEC went to China in August 2014 to investigate the purchase of small scale LNG plants and met Mr David Gordon and other representatives of GEOG from Schertz, Texas, where GEOG built small scale LNG plants.³⁸ The GEOG representatives informed IEC that they had a small scale LNG plant in the Schertz factory that had been produced for Shell for its Canadian Green Corridor project in Northern Canada ("**Train 3**").³⁹ Shell had discontinued the Canadian Green Corridor project and no longer appeared interested in the train, and had asked GEOG to keep it in storage.⁴⁰
292. In August 2014, IEC representatives travelled to Texas to view the Shell train. However, by the time they landed in Houston, Shell had informed GEOG that it did not want to sell the train.⁴¹
293. The IEC representatives nonetheless inspected the Shell unit and the parties discussed the possibility of purchasing similar trains from GEOG.⁴²
294. The Parties negotiated the Contracts in the first two weeks of September 2014,⁴³ and signed them on 13 September 2014.⁴⁴
295. Pursuant to Clause 5 of the Equipment Contract, GEOG was to deliver the Trains to IEC by their respective Delivery Dates, i.e. Train 1 by 13 June 2015 and Train 2 by 13 September 2015.⁴⁵ By virtue of Change Order Request No. 19,⁴⁶ the contractual Delivery Dates were amended as follows: Train 1: 24 June 2015; Train 2: 24 September 2015.⁴⁷
296. However, neither Train was delivered by its Delivery Date, and it is disputed among the Parties whether the Trains were delivered at all and, if so, when they were delivered.

³⁴ Metric tonnes per annum.
³⁵ SoC, ¶56.
³⁶ SoCC, ¶18.
³⁷ SoCC, ¶24.
³⁸ SoCC, ¶40; SoC, ¶¶55-56.
³⁹ SoCC, ¶40; SoC, ¶57.
⁴⁰ SoCC, ¶40; SoC, ¶57.
⁴¹ SoCC, ¶41; SoC, ¶¶59-60.
⁴² SoCC, ¶42; SoC, ¶61.
⁴³ SoCC, ¶¶43-44; SoC, ¶66.
⁴⁴ SoC, ¶69.
⁴⁵ SoC, ¶81.
⁴⁶ Exhibit R-24.
⁴⁷ SoCC, ¶¶73; SoC, ¶¶313, 415.

297. IEC began installation works for Train 1 in December 2015.⁴⁸ However, the installation, commissioning and start-up of the Trains was very considerably delayed for reasons that are disputed among the Parties.
298. In April 2016, IEC acquired Train 3 directly from Shell.⁴⁹
299. Train 3 was started-up in May 2019.⁵⁰
300. As of 30 July 2020, neither Train 1 nor Train 2 had entered into operation.⁵¹

IX. RELIEF SOUGHT BY THE PARTIES

A. Claimants

301. In their Notice of Demand and Commencement of Arbitration of 31 July 2018, the Claimants described their claims under the Equipment Contract as follows:

“Nature of the Claims include breach of contract resulting in damages arising from, inter alia: (i) defective LNG process design, necessitating plant re-configuration and additional CAPEX (capital expenditures); (ii) delivery of defective and/or sub-standard components/equipment; (iii) failure to timely deliver the required equipment/materials/manuals in the configuration required (specifically, modularized components prepared for tropical environment) causing additional OPEX (operational expenditures); (iv) diminution of production capacity; (v) no accessibility to certain areas and loss of useful plant life; (vi) liquidated damages; and (vii) loss of profits recoverable due to gross negligence or willful misconduct, fraud, and/or breach of fiduciary duty.”⁵²

302. And they described their claims under the Services Agreement as follows:

“Nature of the Claims include the failure to provide the requisite supervision, guidance and training insofar as (i) the installation of the component parts of the plant; (ii) preservation of the materials/equipment between delivery and commissioning; (iii) precommissioning and commissioning guidance and (iv) plant operational supervision and training. Damages include a refund of payments made for deficient, unproductive and/or ineffective services and related losses associated with the delays and additional OPEX incurred as a consequence of the failure to provide the agreed services in a timely fashion. The calculation of the total sum of the losses suffered is ongoing, portions are

⁴⁸ SoC, ¶150.

⁴⁹ SoCC, ¶45; SoC, ¶157, Footnote 202.

⁵⁰ Cs' PHB1, ¶104; April 2019, according to Exhibit CWS-12, ¶2.4; see also Exhibit RWS-7, ¶3.

⁵¹ Claimants' Response to Procedural Order No. 10, of 30 July 2020, p. 2.

⁵² Claimants' Notice of Demand and Commencement of Arbitration of 31 July 2018, p. 2.

related to the damages associated with the September 13, 2014 Equipment Contract referenced above and there are ongoing breaches from the continued failure to provide the requisite qualified personnel with expertise in the LNG liquefaction processing field. The subject Equipment Services Contract provides for consolidated arbitration in respect to claims associated with the Equipment Contract.”⁵³

303. In the Statement of Claim, the Claimants’ request for relief read as follows:

“Claimants respectfully request that the Tribunal issue its final award:

(a) declaring that Greenville is a third-party beneficiary of the Equipment Contract and the Services Contract;

(b) declaring that BHGE and BHGE LLC are responsible, along with GEOG, for performance of the obligations under the Equipment Contract and the Guarantee;

(c) declaring that GEOG, BHGE and BHGE LLC have breached the Equipment Contract;

(d) declaring that GE Nigeria has breached the Services Contract;

(e) declaring that GEOG, BHGE and BHGE LLC have breached the Guarantee;

(f) awarding Claimants damages of US\$ 591 million as articulated in the Lapuerta Expert Report and the Witness Statement of Erik Helsen;

(g) declaring that GEOG, BHGE and BHGE LLC are each liable, jointly and severally, to Claimants for all additional damages and further losses that Claimants may incur as a result of their breaches of the Equipment Contract, including costs of remedying latent and patent defects and lost profits arising from the continuing unavailability of the project;

(h) declaring that GE Nigeria and GEOG are liable to Claimants for all additional damages and further losses that Claimants may incur as a result of GE Nigeria’s breaches of the Services Contract;

(i) declaring that GEOG, BHGE and BHGE LLC are jointly and severally liable for fraudulently inducing Claimants to enter into the Equipment Contract;

(j) declaring that GEOG, BHGE and BHGE LLC are jointly and severally liable for defrauding Claimants during the performance of the Equipment Contract;

(k) ordering Respondents, jointly and severally, to compensate Claimants for all fees and expenses incurred in connection with this arbitration, including legal fees and

⁵³ Claimants’ Notice of Demand and Commencement of Arbitration of 31 July 2018, p. 4.

expenses, expert fees and expenses, and all other expenses including the fees of the Arbitral Tribunal and the administrative fees and costs of the AAA/ICDR;

(l) granting such other and further relief as the Arbitral Tribunal deems just and appropriate.”⁵⁴

304. In the Statement of Reply, the Claimants' prayer for relief was:

“Claimants respectfully request that the Tribunal issue its final award:

(a) declaring that Greenville is a third-party beneficiary of the Equipment Contract and the Services Contract;

(b) declaring that BHGE and BHGE LLC are responsible, along with GEOG, for performance of the obligations under the Equipment Contract and the Guarantee;

(c) declaring that GEOG, BHGE and BHGE LLC have breached the Equipment Contract;

(d) declaring that GE Nigeria has breached the Services Contract;

(e) declaring that GEOG, BHGE and BHGE LLC have breached the Guarantee;

(f) awarding Claimants damages of no less than US\$ 697 million as articulated in the Lapuerta Reply Report and the Second Witness Statement of Erik Helsen;

(g) declaring that GEOG, BHGE and BHGE LLC are each liable, jointly and severally, to Claimants for all additional damages and further losses that Claimants may incur as a result of their breaches of the Equipment Contract, including costs of remedying latent and patent defects and lost profits arising from the continuing unavailability of the project;

(h) declaring that GE Nigeria and GEOG are liable to Claimants for all additional damages and further losses that Claimants may incur as a result of GE Nigeria's breaches of the Services Contract;

(i) declaring that GEOG, BHGE and BHGE LLC are jointly and severally liable for fraudulently inducing Claimants to enter into the Equipment Contract;

(j) declaring that GEOG, BHGE and BHGE LLC are jointly and severally liable for defrauding Claimants during the performance of the Equipment Contract;

(k) ordering Respondents, jointly and severally, to compensate Claimants for all fees and expenses incurred in connection with this arbitration, including legal fees and

⁵⁴ SoC, ¶514.

expenses, expert fees and expenses, and all other expenses including the fees of the Arbitral Tribunal and the administrative fees and costs of the AAA/ICDR;

(l) granting such other and further relief as the Arbitral Tribunal deems just and appropriate.”⁵⁵

305. In their First Post-Hearing Brief, the Claimants requested:

“Claimants respectfully request that the Tribunal issue its final award:

(a) declaring that Greenville is a third-party beneficiary of the Contract and the Services Agreement or is otherwise entitled to recover its damages under those Contracts, and that the Tribunal has jurisdiction over its claims;

(b) declaring that BHGE and BHGE LLC are responsible, along with GEOG, for performance of the obligations under the Contract and the Guarantee;

(c) declaring that GEOG, BHGE and BHGE LLC have breached the Contract;

(d) declaring that GE Nigeria has breached the Services Agreement;

(e) declaring that GEOG, BHGE and BHGE LLC have breached the Guarantee

(f) awarding Claimants damages of no less than US\$ 700 million as articulated in the Updated Workpapers in the Lapuerta Reply Report, plus interest;

(g) alternatively, awarding Claimants no less than US\$ 244.9 million as articulated in the Second Witness Statement of Erik Helsen, plus interest;

(h) awarding liquidated damages in the amount of \$4.8 million, plus interest;

(i) awarding Claimants additional damages of US\$ 58,642,586.96 for take-or-pay costs to date;

(j) declaring that GEOG, BHGE and BHGE LLC are each liable, jointly and severally, to Claimants for all additional damages and further losses that Claimants may incur as a result of their breaches of the Equipment Contract, including take-or-pay costs, costs of remedying latent and patent defects and lost profits arising from the continuing unavailability of the project;

(k) declaring that GE Nigeria and GEOG are liable to Claimants for all additional damages and further losses that Claimants may incur as a result of GE Nigeria’s breaches of the Services Agreement;

⁵⁵ SoR, ¶¶691.

(l) declaring that GEOG, BHGE and BHGE LLC are jointly and severally liable for fraudulently inducing Claimants to enter into the Equipment Contract;

(m) declaring that GEOG, BHGE and BHGE LLC are jointly and severally liable for defrauding Claimants during the performance of the Equipment Contract;

(n) ordering Respondents, jointly and severally, to compensate Claimants for all fees and expenses incurred in connection with this arbitration, including legal fees and expenses, expert fees and expenses, and all other expenses including the fees of the Arbitral Tribunal and the administrative fees and costs of the AAA/ICDR; and

(o) granting such other and further relief as the Arbitral Tribunal deems just and appropriate.”⁵⁶

306. As indicated above,⁵⁷ on 3 May 2020, in Procedural Order No. 9, the Arbitral Tribunal decided to not give its consent to the submission of the new claim made in ¶235(i) of the Claimants’ First Post-Hearing Brief (additional damages of US\$ 58,642,586.96 for take-or-pay costs).

307. In their Second Post-Hearing Brief, the Claimants did not include a petition.

308. In their Submission on Fees and Costs of 29 May 2020, the Claimants explained the following:

“Mr. Lapuerta’s model and Mr. Helsen’s damages calculations included Claimants’ Opex (as an input for Mr. Lapuerta’s model and as a category of damages (‘OPEX incurred during delay’) in Mr. Helsen’s witness statements), which, as the Tribunal may recall, contained some portions of the legal and expert fees and certain other expenses incurred by Claimants that are contained in this costs submission. To avoid any double-counting, Claimants agree that it is appropriate to remove those amounts from Mr. Lapuerta and Mr. Helsen’s calculations.

Mr. Lapuerta’s Opex inputs included \$2,258,856.23 in 2018 fees and expenses that are included in this costs submission, and so which should be removed from his damages calculations in both the 5-train and 2-train model resulting in revised numbers of \$697,741,144 and \$301,741,144, respectively.

Mr. Helsen’s ‘OPEX incurred during delay’ category of damages included \$8,976,667.67 in 2018 and 2019 fees and expenses that are included in this costs submission, and so which should be removed from his \$75,084,758 calculation, resulting in a revised ‘Opex incurred during delay’ amount of \$66,108,090.”⁵⁸

⁵⁶ Cs’ PHB1, ¶235.

⁵⁷ ¶263.

⁵⁸ Claimants’ Submission on Fees and Costs of 29 May 2020, ¶¶16-18.

309. The Claimants did not submit an updated request for relief.

B. Respondents

310. In their Demand for Arbitration of 14 August 2018, the Counterclaimants requested:

“The [Counter]Claimants request that the Arbitral Tribunal:

(a) Order IEC to pay the amount of \$9,581,307 to GEOG for change orders to be issued under the Equipment Contract, plus accrued interest;

(b) Order IEC to pay the amount of \$2,428,888 to GEOG for additional claims made under the Equipment Contract, plus accrued interest;

(c) Order IEC to pay the amount of \$4,750,000 to GEOG for the Mechanical Completion of Train #1, plus accrued interest;

(d) Order IEC to pay the amount of \$19,600,508 to GE Nigeria for additional compensation due under the Services Contract, plus accrued interest;

(e) Order the Respondent to reimburse the Claimants for all costs and expenses incurred in arguing their claims in this arbitration, including the fees and/or expenses of the Arbitral Tribunal, the AAA administrative costs, legal counsel (including internal counsel), experts, consultants, and the costs of any witnesses or employees engaged in the preparation or presentation of the Respondents’ defense and counterclaim; and

(f) Grant all further or other relief that the Arbitral Tribunal deems appropriate.”⁵⁹

311. In their Answering Statement of 31 August 2018, the Counterclaimants requested:

“A. Rejecting the consolidation of disputes other than those arising under the “first group of contracts” as defined by the ICDR in its correspondence of August 21 and August 27, 2018;

B. Rejecting the inclusion in this proceeding of any non-signatories to the “first group of contracts” which, for the sake of clarity, provide for arbitration only between GE O&G and PCSNL, on the one side, and IEC, on the other, the same parties named in the demand for arbitration presented by GE O&G and PCSNL, with no consent given for the inclusion of any other legal entities in this proceeding absent demonstration of a valid agreement to arbitrate;

C. Rejecting the demand for arbitration presented by IEC (and Greenville) for the reasons set out in the demand for arbitration presented by GE O&G and PCSNL (now

⁵⁹ Respondents’ Demand for Arbitration of 14 August 2018, ¶36.

denominated as counterclaims by the ICDR), and otherwise for failing to specify any provision of the relevant contracts for which any breach is alleged to have occurred;

D. Ordering the Claimants to reimburse such defendants for all costs and expenses incurred in defending the claims in this arbitration, including the fees and/or expenses of the Arbitral Tribunal, the AAA administrative costs, legal counsel (including internal counsel), experts, consultants, and the costs of any witnesses or employees engaged in the preparation or presentation of the defense; and

E. Granting all further or other relief that the Arbitral Tribunal deems appropriate.”⁶⁰

312. And the BHGE Entities requested:

“[...] the Arbitral Tribunal to:

A. Issue an award declaring the lack of jurisdiction of the Arbitral Tribunal to rule on any claims raised by the Claimants against Baker Hughes, a GE Company and Baker Hughes, a GE Company LLC;

B. Order the Claimants to reimburse such defendants for all costs and expenses incurred in defending the claims in this arbitration, including the fees and/or expenses of the Arbitral Tribunal, the AAA administrative costs, legal counsel (including internal counsel), experts, consultants, and the costs of any witnesses or employees engaged in the preparation or presentation of the defense; and

C. Grant all further or other relief that the Arbitral Tribunal deems appropriate.”⁶¹

313. In the Statement of Counterclaim, the Respondents’ request for relief read as follows:

“229. The Respondents request that the Arbitral Tribunal:

(a) Declare the Arbitral Tribunal’s lack of jurisdiction to rule on (i) any claims raised by Greenville Oil & Gas Co. Ltd against the Respondents and/or (ii) any claims raised by the Claimants against Baker Hughes, a GE Company, LLC and Baker Hughes, a GE Company;

(b) Order IEC to pay the amount of \$4,750,000 to GEOG for the Mechanical Completion of Train 1, plus accrued interest;

(c) Order IEC to pay the amount of \$9,905,408.62 to GEOG for additional compensation due under the Equipment Contract, plus accrued interest;

⁶⁰ Respondents’ Answering Statement of 31 August 2018, ¶1.

⁶¹ Respondents’ Answering Statement of 31 August 2018, ¶12.

(d) Order IEC to pay the amount of \$15,511,076.68 to GE Nigeria for additional compensation due under the Services Contract, plus accrued interest;

(e) Order IEC to pay the amount of \$80,000 to the Respondents for its costs incurred in the proceedings in the Southern District of New York;

(f) Order IEC to (i) cease and desist from disclosure to unauthorized third parties of GEOG Confidential Information, (ii) return to GEOG all original copies of the documents shared with Softec and any other unauthorized third party, and (iii) destroy all copies of such documents in its possession;

(g) Order the Claimants to reimburse the Respondents for all costs and expenses incurred in arguing their claims in this arbitration, including the fees and/or expenses of the Arbitral Tribunal, the ICDR/AAA administrative costs, legal counsel (including internal counsel), experts, consultants, and the costs of any witnesses or employees engaged in the preparation or presentation of the Respondents' defense and counterclaim; and

(h) Grant all further or other relief that the Arbitral Tribunal deems appropriate."⁶²

314. In the Statement of Defense, the Respondents' prayer for relief read as follows:

"The Respondents request that the Arbitral Tribunal:

(a) Declare the Arbitral Tribunal's lack of jurisdiction to rule on (i) any claims raised by Greenville Oil & Gas Co. Ltd against the Respondents and/or (ii) any claims raised by the Claimants against Baker Hughes, a GE Company, LLC and Baker Hughes, a GE Company;

(b) Reject all claims advanced by the Claimants;

(c) Order IEC to pay the amount of \$21,362,377.60 for payments due under the Contracts, plus accrued interest;

(d) Order IEC to pay the amount of \$7,981,202.22 to GEOG for additional compensation due under the Equipment Contract, plus accrued interest;

(e) Order IEC to pay the amount of \$12,835,326.28 to GE Nigeria for additional compensation due under the Services Contract, plus accrued interest;

(f) Order IEC to pay the amount of \$100,198.12 to the Respondents for its costs incurred in the proceedings in the Southern District of New York;

⁶² SoCC, ¶229.

(g) Order IEC to (i) cease and desist from disclosure to unauthorized third parties of GEOG Confidential Information, (ii) return to GEOG all original copies of the documents shared with Softec and any other unauthorized third party, and (iii) destroy all copies of such documents in its possession;

(h) Order the Claimants to reimburse the Respondents for all costs and expenses incurred in arguing their claims in this arbitration, including the fees and/or expenses of the Arbitral Tribunal, the ICDR/AAA administrative costs, legal counsel (including internal counsel), experts, consultants, and the costs of any witnesses or employees engaged in the preparation or presentation of the Respondents' defense and counterclaim; and

(i) Grant all further or other relief that the Arbitral Tribunal deems appropriate."⁶³

315. In the Respondents' First Post-Hearing Brief, the request for relief was the following:

"The Respondents request that the Arbitral Tribunal:

(a) Declare the Arbitral Tribunal's lack of jurisdiction to rule on (i) any claims raised by Greenville Oil & Gas Co. Ltd against the Respondents and/or (ii) any claims raised by the Claimants against Baker Hughes, a GE Company, LLC and Baker Hughes, a GE Company;

(b) Dismiss all claims for costs or damages of any type allegedly incurred by Greenville, as being beyond the Tribunal's jurisdiction to award costs to a non-party;

(c) Declare that the Arbitral Tribunal has no power to award claims beyond the Contracts without assessing whether the contractual remedies were intended to address the breaches alleged by the Claimants;

(d) Reject all claims advanced by IEC or, if Greenville is not dismissed from the arbitration, by both of the Claimants, with the exception of the amount of \$891,500, conceded by the Respondents to IEC to be direct damages incurred by IEC;

(e) Order IEC to pay the amount of \$21,362,377.60 for payments due under the Contracts, plus accrued interest;

(f) Order IEC to pay the amount of \$7,461,503.70 to GEOG for additional compensation due under the Equipment Contract, plus accrued interest;

⁶³ SoD, ¶279.

(g) Order IEC to pay the amount of \$11,475,565.88 to GE Nigeria for additional compensation due under the Services Contract, plus accrued interest;

(h) Order IEC to pay the amount of \$100,198.12 to the Respondents for its costs incurred in the proceedings in the Southern District of New York;

(i) Order IEC to (i) cease and desist from disclosure to unauthorized third parties of GEOG Confidential Information, (ii) return to GEOG all original copies of the documents shared with Softec and any other unauthorized third party, and (iii) destroy all copies of such documents in its possession;

(j) Order the Claimants to reimburse the Respondents for all costs and expenses incurred in arguing their claims in this arbitration, including the fees and/or expenses of the Arbitral Tribunal, the ICDR/AAA administrative costs, legal counsel (including internal counsel), experts, consultants, and the costs of any witnesses or employees engaged in the preparation or presentation of the Respondents' defense and counterclaim; and

(k) Grant all further or other relief that the Arbitral Tribunal deems appropriate."⁶⁴

316. In their Second Post-Hearing Brief the Respondents requested the following:

"The Respondents request that the Arbitral Tribunal grant the requests for relief as outlined in the Respondents' First Post Hearing Brief, as slightly modified herein, and order IEC to pay the total amount of \$40,115,484.30 (plus interest).

Further, in light of the new claims introduced by the Claimants and with acknowledgement of Procedural Order No. 9, the Respondents request that the Arbitral Tribunal:

*(a) Reject the liquidated damages claim as it was submitted in violation of Amended Procedural Order No. 1, Sections 25, 43 and 51, beyond the Arbitral Tribunal's authority or jurisdiction, and in gross violation of due process, appearing for the first time in the post-hearing submission; or, in the alternative, to the extent liquidated damages are granted to IEC, declare that such amount covers all delay-related requests for relief raised by the Claimants."*⁶⁵

C. Claimants' relief sought with respect to the Respondents' counterclaims

317. In their Answering Statement of 5 September 2018, the Claimants requested:

⁶⁴ Rs' PHB1, ¶219.

⁶⁵ Rs' PHB2, ¶¶142-143.

"IEC hereby seeks the following relief in respect to the Counterclaims:

- a. Denial of GEOG's and GE-Nigeria's claims under the Equipment Contract and the Services Agreement in their entirety;*
- b. Recovery of all costs and expenses incurred by Claimants in prosecuting their claims and defending the Counterclaims in this arbitration including the fees and expenses of the Arbitral Tribunal, the AAA, legal counsel, experts and consultants; and*
- c. Such further and different relief as the Tribunal deems appropriate."*⁶⁶

318. In their subsequent briefs the Claimants did not submit an updated prayer for relief with respect to the Respondents' counterclaims.

X. CLAIMANTS' CLAIMS

A. Jurisdiction over the Claimants' claims

1. Jurisdiction over Greenville's claims

a. Respondents' position

319. In their Statement of Counterclaim, the Respondents object to the Arbitral Tribunal's jurisdiction over any claims raised by Greenville against any of the Respondents arguing that Greenville is not a signatory to the Equipment Contract or the Services Agreement (together, the "**Contracts**") or to any arbitration agreement with the Respondents.⁶⁷
320. In their Statement of Defense, the Respondents object to the Claimants' argument that Greenville is entitled to bring claims under the arbitration agreements in the Contracts because it is a third-party beneficiary to those Contracts.⁶⁸
321. They rely on *Dormitory Authority v. Samson Construction Co.*⁶⁹ to argue that the mere knowledge by the GE Entities that the Rumuji Plant would ultimately be operated by Greenville fails to support a finding of third-party beneficiary status.⁷⁰

⁶⁶ Claimants' Answering Statement of 5 September 2018, ¶55.

⁶⁷ SoC, ¶23.

⁶⁸ SoD, ¶88-120.

⁶⁹ Exhibit RLA-6.

⁷⁰ SoD, ¶119.

322. They also rely on *Dormitory Authority v. Samson Construction Co.* as well as on *Port Chester Elec. Const. Co. v. Atlas*⁷¹ to argue that construction contracts need to contain express contractual language in order to confer rights upon third parties.⁷²
323. Moreover, the Respondents point at the agreements entered into between IEC and Greenville⁷³ which show that IEC acted as Greenville's EPC contractor. In contrast, the Respondents argue, the GE Entities' role was that of mere subcontractors to IEC for certain equipment and services, with no obligations towards Greenville.⁷⁴ The Respondents adduce Clause 30.1 of the Equipment Contract which provides that "*the provisions of this Agreement are for the benefit of the Parties hereto and not for any other third party.*"⁷⁵ In challenge to the Claimants' argument that Clause 19 of the Equipment Contract confers upon Greenville the status of a third-party beneficiary as a carve-out from the general provision in Clause 30.1, the Respondents contend that "[a] plain reading of the indemnification provision in Clause 19 indicates that the Parties intended to protect against unforeseeable liability, e.g., unforeseeable tort actions by unnamed third parties."⁷⁶ They further rely on *Dormitory Authority v. Samson Construction Co.* to argue that passing references to third parties in the Contracts are not tantamount to an unequivocal expression of rights to Greenville.⁷⁷
324. Finally, the Respondents point at the non-assignability provision in Clause 4 of the Equipment Contract and they rely on *Sazerac Co., Inc. v. Falk*⁷⁸ in which it was found that such non-assignability clauses contradict there being an express intent to benefit third parties.⁷⁹
325. In their First Post-Hearing Brief, the Respondents complain about the Claimants "*seek[ing], for the first time in their Statement of Reply, to invoke a federal law doctrine of intertwined estoppel*" as a ground for the Arbitral Tribunal's jurisdiction over Greenville's claims.⁸⁰ As for the substance, they argue:

"In order to demonstrate that the 'intertwined' estoppel factors are satisfied, the Claimants should have demonstrated that Greenville's claims fall within the scope of the Contracts between IEC and the Respondents. The Claimants failed to do that, because Greenville is not an intended third-party beneficiary of the Contracts for the reasons set

⁷¹ Exhibit RLA-5.

⁷² SoD, ¶117.

⁷³ Exhibits C-322, C-323 and C-324.

⁷⁴ SoD, ¶¶100-110; see also Rs' PHB1, ¶¶64-65; and Rs' PHB2, ¶31.

⁷⁵ SoD, ¶112.

⁷⁶ SoD, ¶115.

⁷⁷ SoD, ¶120.

⁷⁸ Exhibit RLA-12.

⁷⁹ SoD, ¶126.

⁸⁰ Rs' PHB1, ¶182.

forth in Chapter IV of the Statement of Defense. More importantly, the Claimants failed to distinguish IEC and Greenville losses and damages, on the assumption that the damages incurred by the two companies were exactly the same [...].”⁸¹

b. Claimants’ position

326. In the Statement of Claim, the Claimants argue that Greenville can bring claims under the Contracts by virtue of being a third-party beneficiary.⁸²
327. They allege that the Parties knew and intended throughout negotiation of the Contracts that due to requirements of Nigerian law⁸³ a Nigerian operating subsidiary of IEC would own and operate the Rumuji Plant, and they add that Greenville has actively participated in performance of the Contracts.⁸⁴
328. Moreover, with reference to Clause 30.1, the Claimants argue that “[a]lthough the Sales Agreement includes a statement that ‘the provisions of this Agreement are for the benefit of the Parties hereto and not for any other third party,’ it explicitly carves out beneficiaries ‘provided herein, including Clause 19.’”⁸⁵ And they explain that Clause 19.4 of the Equipment Contract anticipated that the third party to whom IEC would furnish the Trains would have rights against GEOG under the Contract. They argue that it was for that reason that Clause 19.4 provided that IEC should indemnify and hold GEOG harmless for and against any liability arising out of claims made by such third party in excess of the limitations and exclusions provided in this Agreement.⁸⁶
329. In their Statement of Reply, the Claimants invoke *Bayerische*⁸⁷ and *Dean Street*,⁸⁸ explaining that in those cases it was ruled that “the phrase ‘except as provided herein’ indicates the parties intended to allow some third-party-beneficiary claims.”⁸⁹
330. The Claimants also challenge the Respondents’ interpretation of *Port Chester Elec. Const. Co. v. Atlas* and they rely to that end on *Key Int’l Mfg., Inc. v. Morse/Diesel, Inc.*⁹⁰ and *Logan-Baldwin v. L.S.M. Gen. Contractors, Inc.*,⁹¹ which, the Claimants submit, demonstrate that the

⁸¹ Rs’ PHB1, ¶183, Footnote 217.

⁸² SoC, ¶309.

⁸³ SoC, ¶309.

⁸⁴ SoC, ¶311; see also SoR, ¶¶450-451.

⁸⁵ SoC, ¶312.

⁸⁶ SoC, ¶312; see also SoR, ¶446.

⁸⁷ Exhibit CLA-5.

⁸⁸ Exhibit CLA-6.

⁸⁹ SoR, ¶444.

⁹⁰ Exhibit CLA-137.

⁹¹ Exhibit CLA-138.

construction-specific rule put forward by the Respondents has no legitimate footing in New York case law.⁹²

331. They further argue that the language in Clause 19.3 of the Equipment Contract and in Clause 19.3 of the Services Agreements, which excludes liability for loss of profit or revenues, loss of use of the plant and customer claims, would be superfluous unless one were to understand that the party who would eventually operate the Rumuji Plant could bring claims against the GE Entities. Only that party could conceivably suffer these kinds of damages. Hence, the Claimants argue that under the principle of New York law that contracts are to be interpreted to avoid rendering terms surplusage it is to be interpreted that Greenville was an intended third-party beneficiary.⁹³
332. Moreover, the Claimants argue that “[i]n light of the importance of time, it is inconceivable that the parties would have intended to preclude virtually all delay-related claims in circumstances of, e.g., willful misconduct by GE/BHGE, yet this is the consequence GE/BHGE seeks to achieve in its Statement of Defense.”⁹⁴
333. In their Statement of Reply, the Claimants further rely on *Astra Oil Co. v. Rover Navigation, Ltd.*⁹⁵ to argue that the Respondents are equitably estopped from refusing to arbitrate Greenville’s claims under the doctrine of intertwined claims estoppel.⁹⁶ The Claimants posit that there is a close corporate and operational relationship between the nonsignatory, Greenville, and the signatory affiliate, IEC,⁹⁷ that Greenville’s claims are intertwined with IEC’s⁹⁸ and that the Respondents have treated Greenville as if it were a party to the agreement.⁹⁹

c. Arbitral Tribunal’s analysis

334. The Arbitral Tribunal finds that it has no jurisdiction over Greenville’s claims, be it on the basis of Greenville being a third-party beneficiary to the Contracts or by virtue of the doctrine of intertwined claims estoppel.
335. Nothing in the Equipment Contract or the Services Agreement justifies the conclusion that Greenville is a third-party beneficiary.

⁹² SoR, ¶¶453-454.

⁹³ SoR, ¶445

⁹⁴ SoR, ¶448.

⁹⁵ Exhibit CLA-140.

⁹⁶ SoR, ¶¶455-458.

⁹⁷ SoR, ¶¶459-460.

⁹⁸ SoR, ¶¶461.

⁹⁹ SoR, ¶¶462-463.

336. The Parties agree, and the Arbitral Tribunal concurs, that the mere knowledge by the GE Entities that the Rumuji Plant would ultimately be operated by Greenville is not sufficient to support a finding of third-party beneficiary status.¹⁰⁰
337. Regardless of whether New York case law generally provides for a rule –construction-specific or otherwise– requiring an express statement that the intention of the contracting parties is to benefit a third party, it is clear that Clause 30.1 of the Equipment Contract and also Clause 30.1 of the Services Agreements explicitly stipulate that the respective contract is “*for the benefit of the Parties hereto and not for any other third party.*” These provisions also establish the following exceptions to the general rule, respectively: “*Except as provided herein, including Clause 19 [...]*” and “*Except as provided in Clause 19 [...]*.” Hence, an express provision is required, absent which the general contractual stipulation applies that there are no third-party beneficiaries.
338. Such express provision need not identify the third-party beneficiary by name but it should allow for an identification of the third-party beneficiary and it should stipulate which contractual rights such third-party beneficiary may exercise.
339. The only instance of an exception to the general rule excluding third-party beneficiaries at which the Claimants point is Clause 19.4 of the Equipment Contract (Clause 19 of the Services Agreements does not contain an analogous provision). This provision does indeed anticipate that third parties could make claims against GEOG “[i]f Buyer is furnishing Seller’s Plants or Parts to a third party by contract or using Seller’s Plants or Parts at a facility owned by a third party.” And for those cases it makes two stipulations, namely that (i) “Buyer shall obtain from such third party a provision affording Seller the protection of this Clause” and that (ii) “[Buyer] shall, in any event, indemnify and hold Seller harmless for and against any liability arising out of claims made by the third party in excess of the limitations and exclusions provided in this Agreement.” But it is not at all clear that Clause 19.4 of the Equipment Contract anticipates such third-party claims to be contractual claims under the contract. As pointed out by the Respondents,¹⁰¹ it rather appears that Clause 19.4 of the Equipment Contract anticipates potential tort actions by third parties. Claims made under the Equipment Contract by third-party beneficiaries would be subject to the Equipment Contract’s provisions, including the limitations and exclusions of liability of Clause 19. Hence, it would be redundant for IEC to obtain from such third party a provision affording GEOG the protection of Clause 19 of the Equipment Contract. Likewise, it is logically excluded that GEOG would be liable under the Equipment Contract vis-à-vis a third-party beneficiary in excess of the limitations and exclusions of the Equipment

¹⁰⁰ SoD, ¶119; SoR, ¶452.

¹⁰¹ SoD, ¶115.

Contract, because contractual claims asserted by a third-party beneficiary are subject to the same limitations and exclusions. It is thus clear that neither of the two stipulations in Clause 19.4 could operate with respect to claims made by third-party beneficiaries under the Equipment Contract. As explained by the Claimants themselves, under New York law, contracts are to be interpreted to avoid rendering terms surplusage.¹⁰²

340. Hence, the Arbitral Tribunal sees no reason to depart from the general rule established in Clause 30.1 of the Equipment Contract and also Clause 30.1 of the Services Agreements. Accordingly, it finds that Greenville may not bring claims under the arbitration agreements in the Contracts by virtue of being a third-party beneficiary.
341. As regards the doctrine of intertwined claims estoppel, the Arbitral Tribunal is not persuaded by the Claimants' explanations on Greenville's claims being intertwined with IEC's. The Claimants argue in this regard: *"Like the nonsignatory petitioner in Astra Oil, Greenville asserts claims jointly with IEC, bringing claims for delay damages under the controlling agreements (which contain arbitration clauses) rather than under a separate, unrelated contract."*¹⁰³ However, an arbitral tribunal's jurisdiction over claims made by a non-signatory cannot logically rest on the ground that such claims are being brought by the non-signatory under the agreement that it has not signed. Such reasoning begs the question. No signatory of an agreement can be compelled by a non-signatory to arbitrate past the jurisdictional phase on the basis of the mere assertion of claims under the agreement. It is true that *Astra Oil Co. v. Rover Navigation, Ltd.* could arguably be read this way, insofar as the Court seemed to conclude that the claims were intertwined based on *"the fact that Astra's claims against Rover, for Astra seeks arbitration, are brought directly under the charter party signed by Rover and AOT."*¹⁰⁴ However, in that case the Court did not address whether Astra conceivably had any standing to bring such claims under the charter party. In fact, it appears that Rover had admitted the possibility *"that Astra may have a claim under the charter party."*¹⁰⁵ In contrast, in the present case the Arbitral Tribunal has already found that Greenville is not a third-party beneficiary to the Contracts and that it thus has no standing whatsoever under either the Equipment Contract or the Services Agreement. There are thus no claims that could meaningfully be assessed as to their intertwined-ness with IEC's.

¹⁰² SoR, ¶445.

¹⁰³ SoR, ¶461.

¹⁰⁴ Exhibit CLA-140, *281.

¹⁰⁵ Exhibit CLA-140, *281.

2. Jurisdiction over the claims against the BHGE Entities

a. BHGE Entities' position

342. In the Statement of Counterclaim, the BHGE Entities deny being successors to GEOG¹⁰⁶ and they explain that the 2017 merger between General Electric Company and Baker Hughes Inc. only meant a change at the level of GEOG's parent company which now was BHGE LLC.¹⁰⁷ They further point out that they have not consented –explicitly or implicitly– to arbitration with the Claimants.¹⁰⁸
343. In the Statement of Defense, the BHGE Entities also challenge the Claimants' contention that they are alter egos of GEOG or that they are equitably estopped from objecting to the Arbitral Tribunal's jurisdiction.¹⁰⁹
344. They explain that BHGE is a holding company and has no material assets other than its ownership in BHGE LLC and certain intercompany and tax-related balances.¹¹⁰
345. They further assert that GEOG continues to be an active legal entity with its own distinct corporate identity, its own employees, totaling over 2,000, its own books and records, its own bank accounts and its own financial records. They also posit that GEOG and its parent company, BHGE LLC, maintain separate bank accounts and that not all assets were transferred out of GEOG, the remaining assets being sufficient to satisfy any judgment against it in this arbitration.¹¹¹
346. They also point at letters sent by GEOG to IEC in July 2017¹¹² and in June 2018¹¹³ assuring that the relationship with GEOG and GE Nigeria remained unchanged and that GEOG and GE Nigeria remained willing and able to perform their obligations under the Contracts.¹¹⁴
347. They also argue that the business and marketing decisions to use the Baker Hughes trade name and logo when interacting with the public, including within the GEOG employee emails, are irrelevant in determining the true relationship between the parent and subsidiary company.¹¹⁵

¹⁰⁶ SoCC, ¶24.

¹⁰⁷ SoCC, ¶25; see also SoD, ¶¶136-137.

¹⁰⁸ SoCC, ¶26.

¹⁰⁹ SoD, ¶144.

¹¹⁰ SoD, ¶138.

¹¹¹ SoD, ¶¶138, 150.

¹¹² Exhibit R-182.

¹¹³ Exhibit R-10.

¹¹⁴ SoD, ¶¶139-140.

¹¹⁵ SoD, ¶148.

b. Claimants' position

348. In their Statement of Claim, the Claimants contend that both BHGE Entities are successors of GEOG and GE Nigeria and have successor liability under the Contracts. In addition, the Claimants assert that the BHGE Entities are liable as alter egos under standards for piercing the corporate veil.¹¹⁶ The Petition to Compel Arbitration,¹¹⁷ which the Statement of Claim incorporates by reference,¹¹⁸ puts forward equitable estoppel as a further cause of action.¹¹⁹
349. The Claimants explain that in 2017 General Electric Company, as the parent company of all GE subsidiaries, agreed a merger by virtue of which the GE oil and gas business, including GEOG¹²⁰ and GE Nigeria were contributed to BHGE LLC.¹²¹ They further explain that BHGE LLC is ultimately owned, in part, and controlled fully by BHGE.¹²²
350. The Claimants assert that after the merger, the Contracts were “*implemented*” by BHGE LLC and/or BHGE LLC,¹²³ which “*have stepped in and taken over performance of the Contracts after the merger between GEOG and Baker Hughes was effected in 2017.*”¹²⁴ They also allege that the BHGE Entities have “*knowingly exploited and derived direct benefits from the Contracts.*”¹²⁵ They also posit that “*GEOG, meanwhile, has no current employees, is not performing any business or selling any equipment, and is no longer engaged in the oil and gas business.*”¹²⁶
351. In their Statement of Reply, the Claimants insist that “*it is indisputable that since that merger, Respondent GEOG has been rendered illiquid, insolvent and faces doubt as a going concern*” and that “*BHGE has replaced GEOG in all meaningful ways.*”¹²⁷ In particular, they assert that BHGE LLC also received exclusive, direct control over GEOG’s finances,¹²⁸ that there is considerable overlap of GEOG’s and BHGE’s officers, directors, and personnel,¹²⁹ that BHGE

¹¹⁶ Exhibit C-758 (incorporated by reference in SoC, ¶¶21, 307), Petition to Compel Arbitration, ¶¶65-66.

¹¹⁷ See above, ¶77(i).

¹¹⁸ SoC, ¶¶21, 307.

¹¹⁹ Exhibit C-758, Petition to Compel Arbitration, ¶¶84-88.

¹²⁰ Exhibit C-758 (incorporated by reference in SoC, ¶¶21, 307), Petition to Compel Arbitration, ¶61.

¹²¹ SoC, ¶18; Exhibit C-758 (incorporated by reference in SoC, ¶21), Petition to Compel Arbitration, ¶¶49-50.

¹²² Exhibit C-758 (incorporated by reference in SoC, ¶¶21, 307), Petition to Compel Arbitration, ¶51.

¹²³ Exhibit C-758 (incorporated by reference in SoC, ¶¶21, 307), Petition to Compel Arbitration, ¶53.

¹²⁴ SoC, ¶306(a).

¹²⁵ Exhibit C-758 (incorporated by reference in SoC, ¶¶21, 307), Petition to Compel Arbitration, ¶83.

¹²⁶ Exhibit C-758 (incorporated by reference in SoC, ¶¶21, 307), Petition to Compel Arbitration, ¶61; see generally,

Exhibit C-758 (incorporated by reference in SoC, ¶¶21, 307), Petition to Compel Arbitration, ¶¶67-82; see also SoC, ¶306; and SoR, ¶¶465-468.

¹²⁷ SoR, ¶464.

¹²⁸ SoR, ¶¶469, 477, referring to Exhibit R-181.

¹²⁹ SoR, ¶¶476, 478-479, referring to Exhibit R-181.

has taken over the former headquarters of GEOG in London and Houston,¹³⁰ that BHGE and GEOG share website and emails¹³¹ and that GEOG is inadequately capitalized.¹³²

352. As regards the cause of action of direct-benefits estoppel, the Claimants submit that “*BHGE — not GEOG — sent the June 2018 demands for change orders that underpin GE/BHGE’s counterclaim for more than \$30 million.*”¹³³

c. Arbitral Tribunal’s analysis

353. The Arbitral Tribunal finds that the BHGE Entities are not GEOG’s or GE Nigeria’s successors in interest. The context in which successor liability can arise is when a company sells or transfers all its assets to another company, following which the former is either extinguished or continued as a mere shell.¹³⁴ The Claimants have not alleged that GEOG or GE Nigeria have sold or transferred all of their assets to any of the BHGE Entities. Hence, the figure of successor liability is not applicable to the present circumstances.
354. Likewise, the Arbitral Tribunal finds that the BHGE Entities are not alter egos of GEOG or GE Nigeria. There is no doubt that BHGE LLC controls its subsidiaries GEOG and GE Nigeria. However, as the Claimants acknowledge,¹³⁵ “*absent a showing that ‘control and domination was used to commit wrong, fraud, or the breach of a legal duty, or a dishonest and unjust act’ New York law will not allow a piercing of the corporate veil.*”¹³⁶ While the Claimants spend considerable efforts in showing control and domination, they only vaguely hint at a possible fraud or wrong committed against the Claimants (e.g. they allege that there is evidence that “*perhaps asset stripping*”¹³⁷ occurred and they mention “*funds swept up into BHGE from GEOG*”¹³⁸), falling short of actually alleging and proofing the commission of a fraud or wrong against the Claimants (e.g., bankruptcy fraud). Therefore, the Arbitral Tribunal sees no reason to pierce the corporate veil. On the contrary, the Arbitral Tribunal finds that there is no evidence that any objectionable acts were committed. Neither the 2017 merger between the GE Entities’ parent, General Electric Company, and Baker Hughes Inc., nor the ensuing rebranding and group-wide homogenization of names and logos, nor a certain integration/overlap or officers and personnel,

¹³⁰ SoR, ¶480.

¹³¹ SoR, ¶¶481-482.

¹³² SoR, ¶¶483-492.

¹³³ SoR, ¶499; see also Exhibit C-758 (incorporated by reference in SoC, ¶¶21, 307), Petition to Compel Arbitration, ¶86.

¹³⁴ See Exhibit CLA-156, *249; Exhibit CLA-157, *392; Exhibit CLA-75, *574-*575; Exhibit CLA-88, *32; Exhibit CLA-113, *17-*19; Exhibit CLA-108, *10.

¹³⁵ SoR, ¶471.

¹³⁶ Exhibit CLA-145, *138.

¹³⁷ SoR, ¶488.

¹³⁸ SoR, ¶500.

nor a sharing of infrastructure, nor the granting of certain powers of attorney over GEOG's bank accounts to BHGE LLC's officers, nor an inadequate capitalization of GEOG (unless caused by fraudulent acts, which is not the case), nor any other of the circumstances put forward by the Respondents, amounts to anything but normal marketing and business behavior.

355. Finally, the Arbitral Tribunal does not consider that the BHGE entities are estopped from objecting to the Arbitral Tribunal's jurisdiction under the doctrine of direct-benefits estoppel. As the Claimants explain and acknowledge, this would require showing that a non-signatory received direct benefits under the agreement in question.¹³⁹ However, the only factual allegations made by the Claimants to specify which benefits the BHGE Entities might have obtained are (i) that funds were "*swept up into BHGE from GEOG*,"¹⁴⁰ (ii) that GEOG does not maintain independent finances –because it has granted certain powers over its bank accounts to BHGE's officers,¹⁴¹ and (iii) that "*it was Baker Hughes, a GE entity, that pressed claims for compensation under the Equipment Contract and Sales Agreement*" because "[t]he claims appeared on Baker Hughes, a GE entity letterhead, and were executed by Marco Pagliaro, a Baker Hughes Project Manager, 'on behalf of GE Oil and Gas LLC.'"¹⁴² The Arbitral Tribunal has no reason to believe that the BHGE Entities received any benefits under the Contracts beyond the normal –indirect– benefits any parent company receives from its subsidiary's business, i.e. in the form of dividends, interest on loans and the like. Further, the Arbitral Tribunal fails to see how the Claimants' allegation that GEOG does not maintain independent finances could support a finding that the BHGE Entities received direct benefits under the Contracts. Lastly, with regard to the claims allegedly pressed by the BHGE Entities, the Arbitral Tribunal understands that the Claimants refer to the letters of 29 June 2018.¹⁴³ The letters were signed on behalf of GE Nigeria and GEOG, respectively. Neither the fact that the letters bear a letterhead with the name/logo of "*BAKER HUGHES a GE company*" nor that the person who signed them presents himself as a "*Baker Hughes Project Manager*" is apt to render the BHGE Entities authors of the letters. As explained above, these are purely marketing aspects with no bearing on the existing corporate structure.
356. It should be added that the Arbitral Tribunal cannot grant the Claimants' request to make adverse inferences for failure by the Respondents to comply with document production orders.¹⁴⁴ The making of such adverse inferences would require, among others, that the Claimants allege how

¹³⁹ SoR, ¶498.

¹⁴⁰ SoR, ¶500.

¹⁴¹ SoR, ¶500.

¹⁴² Exhibit C-758 (incorporated by reference in SoC, ¶¶21, 307), Petition to Compel Arbitration, ¶¶86; see also SoR, ¶499.

¹⁴³ Exhibits R-3 and R-4.

¹⁴⁴ SoR, ¶¶499-500.

the documents that were not disclosed could conceivably prove the fact the Claimants wish to prove. However, the Claimants have neither specified which fact they wish to prove (i.e. which sort of direct benefits the BHGE Entities could plausibly have received under the Contracts) nor how the requested documents could have proven such fact.

357. In conclusion, when IEC negotiated the Contracts, it bargained for the Guarantee, by virtue of which it attained the right to bring claims against GEOG under the Services Agreement between IEC and GE Nigeria. However, IEC did not bargain to extend the circle of liable parties under the Contracts further up the corporate chain. The Arbitral Tribunal does not find that the Claimants have shown any grounds that could justify a departure from the Parties' bargain in the Contracts.
358. Thus, the Arbitral Tribunal upholds the BGHE Entities' objection to the Arbitral Tribunal's jurisdiction.

3. Power to award claims beyond the Contracts

359. The Respondents request a declaration "*that the Arbitral Tribunal has no power to award claims beyond the Contracts without assessing whether the contractual remedies were intended to address the breaches alleged by the Claimants.*"¹⁴⁵
360. The Respondents do not appear to be raising a concrete jurisdictional objection to any claim brought by any of the Claimants but they rather seem to be seeking a declaration providing an answer to an abstract question about the Arbitral Tribunal's powers (that may or may not be of incidental relevance to the decision over a claim). The Arbitral Tribunal finds that its mandate, as per the arbitration agreements and the Rules, is to resolve actual disputes, not to answer abstract questions. Thus, the Arbitral Tribunal declines to issue the declaration sought by the Respondents.

B. Claims under the Equipment Contract

361. The Arbitral Tribunal first analyzes IEC's claim for liquidated damages for delayed delivery, as per Clause 6.5 of the Equipment Contract.¹⁴⁶ It then goes on to analyze IEC's claims for direct damages related to the remediation of defects, as per Clause 17.4(i) of the Equipment Contract.¹⁴⁷ Then it addresses IEC's claims for damages associated with the delayed entry into operation of the Trains.¹⁴⁸

¹⁴⁵ Rs' PHB1, ¶219(c); see also Rs' PHB1, ¶84.

¹⁴⁶ §X.B.1.

¹⁴⁷ §X.B.2.

¹⁴⁸ §X.B.3.

1. Liquidated damages for delayed delivery (Clause 6.5 of the Equipment Contract)

a. Whether IEC has made a timely claim for liquidated damages for delay under Clause 6.5 of the Equipment Contract

(1) IEC' position

362. In the Statement of Claim, IEC submits that “*GE is obligated to pay US\$4.25 million in liquidated damages under Clause 6.5.*”¹⁴⁹ However, the prayer for relief does not include a specific request for liquidated damages but several requests for declaratory relief, a request for “*damages of US\$ 591 million as articulated in the Lapuerta Expert Report and the Witness Statement of Erik Helsen,*”¹⁵⁰ and a request for “*such other and further relief as the Arbitral Tribunal deems just and appropriate.*”¹⁵¹

363. At the Additional Hearing, IEC submitted:

*“[...] it is understood that the liquidated damages is part of what we seek. It's quite clear, when you read the Request for Relief in the context of the entire Statement of Claim, paragraphs 414 to 416, they specifically say we are entitled to the liquidated damages. GE addressed the claim for liquidated damages in their responsive papers. There is no issue of due process, and in their Request for Relief at the end, although we didn't make a specific reference to liquidated damages, in the prayer for relief at the end, specifically there is a final clause that does specifically say: All further relief that this Tribunal thinks is appropriate and just. And given the fact that this was requested specifically in the context of the Statement of Claim, it is captured with it.”*¹⁵²

364. In the Claimants' First Post-Hearing Brief IEC repeats that “*Claimants made clear in the SoC that they are 'entitled to Liquidated Damages for Delay' ”* and that “*BHGE addressed that claim in its SoD.*”¹⁵³ And the prayer for relief now included a specific request for liquidated damages: “*awarding liquidated damages in the amount of \$4.8 million, plus interest.*”¹⁵⁴

365. In the Claimants' Second Post-Hearing Brief, IEC states –in reply to GEOG's argument that it had highlighted in the Statement of Defense that liquidated damages for delay had not been requested in the Statement of Claim—¹⁵⁵ that “*BHGE did not object in its SoD and certainly did*

¹⁴⁹ SoC, ¶416.

¹⁵⁰ SoC, ¶514(f).

¹⁵¹ SoC, ¶514(l); the Claimants also included a request for costs (¶514(k)).

¹⁵² Transcript of the Additional Hearing held in Milan on 21 January 2020 (“**Tr. Milan**”), 26:7-23.

¹⁵³ Cs' PHB1, ¶¶131; see also Cs' PHB2, ¶¶118, 126.

¹⁵⁴ Cs' PHB1, ¶235(h).

¹⁵⁵ See below, ¶367.

not 'highlight[] this shortcoming in the Statement of Defense.' " that "BHGE cites ¶¶ 168-169 of its SoD for this proposition," but that "there, BHGE only argued that Claimants had not sought liquidated damages for performance (under Clause 25.4), not for delay (under Clause 6.5)." ¹⁵⁶

(2) GEOG's position

366. In the Statement of Defense, GEOG points out that "the Statement of Claim ignores the liquidated damages for performance, the remedial actions under the warranty clause and the limitation of liabilities" and that "[t]he Claimants are not seeking the application of any of those remedies: none of them are referenced or claimed in any of the Claimants' requests for relief." ¹⁵⁷
367. In the Respondents' First Post-Hearing Brief, GEOG argues that IEC "did not include liquidated damages of any type in their request for relief at the end of the Statement of Claim" and that "[t]hey only mention liquidated damages for delay in three paragraphs (out of 516 total), concluding that 'GE is obligated to pay US\$4.25 million in liquidated damages under Clause 6.5.'" ¹⁵⁸ GEOG points at paragraphs 25 and 43 of Procedural Order No. 1, pursuant to which "the Arbitral Tribunal shall rule solely on the requests identified in [the relief sought]." ¹⁵⁹ GEOG further submits that it "highlighted this shortcoming in the Statement of Defense, but the Claimants did not change their strategy," that "[t]he Statement of Reply is silent as to liquidated damages under both Clause 6.5 and 6.6" and that "[t]he Claimants attempted to rectify their deficient pleadings only at the Additional Hearing, arguing that their request for relief for liquidated damages for delay can be included in the catch-all final clause requesting 'All further relief that this Tribunal thinks is appropriate and just.'" ¹⁶⁰ And it argues that "even if the Arbitral Tribunal were to determine that GEOG would have been liable for liquidated damages pursuant to Clause 6.5 of the Equipment Contract, the Arbitral Tribunal cannot award any damages" because GEOG did not take a position on a claim for liquidated damages for delay "either from a legal (validity and effectiveness of the clause) or from a factual standpoint." ¹⁶¹
368. In the Respondents' Second Post-Hearing Brief, GEOG argues that "[t]he fact that the Claimants never asked for liquidated damages is demonstrated by the new version of their request for relief. If such claim had been included in the Claimants' original claims, there would be no need to add

¹⁵⁶ Cs' PHB2, ¶¶ 127.

¹⁵⁷ SoD, ¶ 168.

¹⁵⁸ Rs' PHB1, ¶ 215.

¹⁵⁹ Rs' PHB1, ¶ 215.

¹⁶⁰ Rs' PHB1, ¶ 216.

¹⁶¹ Rs' PHB1, ¶ 218.

a new request for relief now.”¹⁶² GEOG concludes that “[t]he request is new, late, unauthorized, and therefore inadmissible”¹⁶³ and it thus requests that the Arbitral Tribunal,

“[r]eject the liquidated damages claim as it was submitted in violation of Amended Procedural Order No. 1, Sections 25, 43 and 51, beyond the Arbitral Tribunal’s authority or jurisdiction, and in gross violation of due process, appearing for the first time in the post-hearing submission; or, in the alternative, to the extent liquidated damages are granted to IEC, declare that such amount covers all delay-related requests for relief raised by the Claimants.”¹⁶⁴

(3) Arbitral Tribunal’s analysis

369. In the Arbitral Tribunal’s view, IEC’s request for liquidated damages pursuant to Clause 6.5 of the Equipment Contract was included in its Statement-of-Claim request for “damages of US\$ 591 million as articulated in the Lapuerta Expert Report and the Witness Statement of Erik Helsen.”¹⁶⁵

370. The Equipment Contract distinguishes between two periods during which IEC is entitled to damages for delay, namely the period until the Delay Limit Date and the period beyond the Delay Limit Date:

“The payment of Liquidated Damages shall be Buyer’s sole and exclusive remedy and Seller’s exclusive liability for any failure to achieve or deliver a Plant (or any portion thereof) by the Delay Limit Date or any agreed extension thereof. Should Seller’s failure to deliver a Plant (or any portion thereof) continue beyond the Delay Limit Date, then Buyer shall have the right to pursue and exercise the rights and remedies in Clause 6.6.”¹⁶⁶

371. Specifically, the Equipment Contract stipulates that IEC is entitled,

- (i) to liquidated damages for delay during the period between the Delivery Date and the Delay Limit Date (Clause 6.5), and
- (ii) to recovery of its direct damages for delay during the period subsequent to the Delay Limit Date (Clause 6.6(ii)).

372. Neither the damages articulated in the Lapuerta Expert Report nor those in Mr Helsen’s witness statement exclude the damages incurred as a result of the delay between the Delivery Date and

¹⁶² Rs’ PHB2, ¶15.

¹⁶³ Rs’ PHB2, ¶15.

¹⁶⁴ Rs’ PHB2, ¶143(a).

¹⁶⁵ SoC, ¶514(f).

¹⁶⁶ Equipment Contract. Clause 6.5, paragraph 3.

the Delay Limit Date. Thus, the Arbitral Tribunal understands that with its request for “*damages of US\$ 591 million as articulated in the Lapuerta Expert Report and the Witness Statement of Erik Helsen*,”¹⁶⁷ IEC sought damages (including liquidated damages) as incurred during both periods, i.e. both before and after the Delay Limit Date.

373. Consistent therewith, the Claimant’s Statement of Claim devoted a section to IEC’s contention that “*Claimants Are Entitled to Liquidated Damages for Delay*”¹⁶⁸ for the period until the Delay Limit Date.¹⁶⁹ IEC specifically invoked Clause 6.5 of the Equipment Contract as *causa petendi* for those damages incurred up until the Delay Limit Date.
374. Further, IEC is correct in pointing out that, contrary to GEOG’s contention made in the Respondents’ First Post-Hearing brief, GEOG did not argue in the Statement of Defense that IEC’s request for relief did not include liquidated damages for delay but that, in fact, GEOG “*only argued that Claimants had not sought liquidated damages for performance (under Clause 25.4), not for delay (under Clause 6.5)*.”¹⁷⁰
375. Indeed, in the Statement of Defense, GEOG specifically acknowledged that IEC had requested liquidated damages in the Statement of Claim: “*The only reference in the Statement of Claim to the provisions of the Equipment Contract are three paragraphs at the end requesting \$4.25 million in liquidated damages*.”¹⁷¹ Moreover, GEOG submitted that “*should the Arbitral Tribunal determine that GEOG is liable for any delay, IEC cannot be compensated more than the maximum liquidated damages under the Equipment Contract of \$4.25 million*.”¹⁷²
376. Therefore, the Arbitral Tribunal rejects GEOG’s contention that, because it did not consider that IEC has pled a claim for liquidated damages for delay, it refrained from taking a position on such claim, “*either from a legal (validity and effectiveness of the clause) or from a factual standpoint*.”¹⁷³ IEC requested liquidated damages for delay in its Statement of Claim. GEOG recognized this and was prompted to taking a position in the Statement of Defense. And it submitted the factual allegations and legal arguments it deemed convenient.

¹⁶⁷ SoC, ¶514(f).

¹⁶⁸ SoC, §IV.E.

¹⁶⁹ SoC, ¶415.

¹⁷⁰ Cs’ PHB2, ¶127.

¹⁷¹ SoD, ¶158.

¹⁷² SoD, ¶162.

¹⁷³ Rs’ PHB1, ¶218.

377. Further, the Arbitral Tribunal notes that, as acknowledged by GEOG, even before this arbitration was commenced IEC had already “presented a formal claim for liquidated damages under the Equipment Contract.”¹⁷⁴

b. Whether liquidated damages for delay are due from the Delivery Date or from the end of the 4-week grace period

(1) IEC’s position

378. In the Statement of Claim, IEC submits that “Trains 1 and 2 were due to be delivered on June 24, 2015 and September 24, 2015 respectively” and that “[t]he Delay Limit Date – the date on which the liquidated damages reached the 5 percent price threshold — was reached for Trains 1 and 2 on November 11, 2015 and February 11, 2016 respectively.”¹⁷⁵

379. In the Claimants’ First Post-Hearing Brief, IEC argues that the four-week grace period under Clause 6.5 of the Equipment Contract applies to determine whether the delivery is delayed but, once it is determined that the delivery is delayed, the liquidated damages are calculated without regard to such grace period:

“BHGE claimed entitlement at the closing hearing to a ‘grace period’ of four weeks under Clause 6.5 of the Contract. But that grace period only applies if BHGE achieved delivery within it. If not, liquidated and other damages are payable ‘as from the first Day following the Delivery Date until the Day on which delivery of the Plant actually occurs.’ The four week grace period has no effect here because BHGE’s delay exceeds four weeks.”¹⁷⁶

(2) GEOG’s position

380. At the Additional Hearing GEOG explained its divergent view on this matter as follows:

“We would point out a correction here, that it’s not nine and 12 months. It’s 10 and 13 months. Because there is a four-week grace period before liquidated damages are imposed. So that’s the actual timing.

Again, it’s in the liquidated damages clause. It says specifically they should not be imposed before the end of the four-week grace period.”¹⁷⁷

¹⁷⁴ SoCC, ¶130, with reference to Exhibit R-82 (IEC’s letter demanding payment of attached invoices for liquidated damages under Clause 6.5 in the amount of USD 4,750,000).

¹⁷⁵ SoC, ¶415.

¹⁷⁶ Cs’ PHB1, ¶32.

¹⁷⁷ Tr. Milan, 208:21-209:4.

(3) **Arbitral Tribunal's analysis**

381. It is undisputed that by virtue of Change Order Request No. 19,¹⁷⁸ the contractual delivery dates were amended as follows:¹⁷⁹
- (i) Train 1: 24 June 2015.
 - (ii) Train 2: 24 September 2015.
382. The contractual provision about whose interpretation the Parties disagree reads as follows:
- "Prior to applicability of the Liquidated Damages and start of the Liquidated Damages applicability, Seller shall have a four (4) Week grace period from the date of the Delivery Date (i.e. Seller may be late by four (4) Weeks without any application of the Liquidated Damages in this Clause 6.5 or the remedies and rights in Clause 6.6)."*¹⁸⁰
383. The Arbitral Tribunal does not agree with IEC's interpretation that once the four-week grace period elapses, the liquidated damages become retroactively due from the Delivery Date, but it concurs with GEOG's interpretation that liquidated damages for delay start accruing from the end of the four-week grace period.
384. The provision not only stipulates that GEOG shall have a four-week grace period prior to "*applicability of the Liquidated Damages*" but it also adds that the "***start of the Liquidated Damages applicability***"¹⁸¹ shall be after the four-week grace period. This distinction and separate mention of "applicability" and "start of the applicability" strongly suggest that the elapsing of the four-week grace period not only determines that the liquidated damages become applicable, but that this marks the point in time on which they *start* accruing.
385. Consequently, liquidated damages started accruing,
- (i) on 23 July 2015 for Train 1, and
 - (ii) on 23 October 2015 for Train 2.
386. And the Delay Limit Date was,
- (i) 30 September 2015 for Train 1, and
 - (ii) 31 December 2015 for Train 2.
387. Moreover, the Arbitral Tribunal notes that this was also IEC's interpretation back in late 2015, when it sent a letter to GEOG explaining:

¹⁷⁸ Exhibit R-24.

¹⁷⁹ SoCC, ¶¶73; SoC, ¶¶313, 415.

¹⁸⁰ Equipment Contract, Clause 6.5, paragraph 1.

¹⁸¹ Emphasis added.

“As you know, under the terms of the Agreement, the Seller was obliged to complete delivery of the first Plant nine months from the Effective Date of the Agreement (i.e. June 13, 2015), extended to June 23, 2015 by means of VOR 19), and with a four (4) week grace period that applied thereafter. Once beyond the grace period, which expired by our calculations on July 21, 2015, Liquidated Damages (equal to 0.5 percent of the Contract Price of that Plant, up to a maximum of 5% of the Contract Price), were due for each week that the Seller did not complete delivery. Hence, and as of September 29, the full extent of Liquidated Damages had accrued since delivery had not occurred by then.”¹⁸²

388. Regardless of the slight divergence between this calculation and the Arbitral Tribunal’s, IEC did not retroactively apply liquidated damages, as it now seeks to defend.

c. Whether GEOG is entitled to an extension of the Delivery Date pursuant to Clause 6.3 of the Equipment Contract

(1) IEC’ position

389. In the Statement of Claim, IEC posits that “[p]ursuant to Clauses 2 and 24 of the Equipment Agreement[...] the[delivery] dates are immutable unless IEC and GE both agree to change them” and it explains in this regard that “in fact, with one exception of an 11-day extension, no change orders were issued that provided for extensions of time.”¹⁸³

390. As to the substance of GEOG’s request for an extension of the Delivery Date, IEC alleges that it was not delayed in responding to GEOG’s requests for information and that, in any event, such requests had little design impact.¹⁸⁴

(2) GEOG’s position

391. In the Statement of Counterclaim, GEOG alleges that “IEC’s actions caused delay to the production of the Trains.”¹⁸⁵ Specifically, it submits that “IEC’s demands for changes to the contract specifications, as well as IEC’s indecision on major elements impacted the design of the Trains.”¹⁸⁶

¹⁸² Exhibit C-109.

¹⁸³ SoC, ¶¶81-82.

¹⁸⁴ SoC, ¶¶146-148.

¹⁸⁵ SoC, ¶76.

¹⁸⁶ SoC, ¶76; see in this regard SoC, ¶¶77-80 (changes in scope requested by IEC) and 81-86 (lack of response to GEOG RFIs).

392. In the Statement of Defense, GEOG invokes the expert report by Mr Blinkhorn submitted with this memorial in support of its claim for an extension of time of the delivery date.¹⁸⁷

(3) Arbitral Tribunal's analysis

393. Clause 6.3 of the Equipment Contract sets forth the requirements for extensions of the Delivery Date. One of those requirements is that GEOG give IEC written notice of its claim for an extension of time within seven Working Days after the date when the event causing the delay became known to Seller.
394. However, it was only after the fact that GEOG made a formal request for extension of the Delivery Date, namely in Change Order Request No. 30, dated 8 December 2015.¹⁸⁸ The agreed delivery dates (24 June and 24 September 2015, respectively) had elapsed months earlier. And the alleged events causing the delay (namely the changes in scope requested by IEC and the delayed responses by IEC to GEOG's requests for information) would have been known by much longer than seven Working Days before 8 December 2015.
395. In addition to being untimely, GEOG's request for extension of the Delivery Date failed to state, as required by Clause 6.3 and 6.2 of the Equipment Contract, the event causing the delay, the impact which such event had had or in its opinion was likely to have or would have on its ability to achieve any of the Milestones or the steps which it had taken, was taking and would take to mitigate the adverse consequences of such event.
396. Thus, GEOG is not entitled to an extension of the Delivery Date under Clause 6.3 of the Equipment Contract. Hence, the Delivery Dates remain as agreed in virtue of Change Order Request No. 19:¹⁸⁹
- (i) Train 1: 24 June 2015.
 - (ii) Train 2: 24 September 2015.

¹⁸⁷ SoD, ¶161; see Exhibit RER-14, ¶4.3.31; see also Rs' PHB1, ¶42.

¹⁸⁸ The Arbitral Tribunal notes that on 28 June 2018 GEOG submitted to IEC a claim for extension of time for *Mechanical Completion of the Trains* (Exhibit R-4a, ¶X11.1.10). While Mechanical Completion is a payment milestone under the Equipment Contract, the Arbitral Tribunal is unaware of any contractual deadline for GEOG that could be linked to Mechanical Completion (the definition of "Mechanical Completion" in Clause 1, according to which Mechanical Completion is deemed to be reached five months after the Delivery Date in the event GEOG is prevented from Mechanical Completion due to reasons beyond its control, does not establish a deadline for GEOG). Thus, the Arbitral Tribunal fails to comprehend what the 28 June 2018 claim for extension of time refers to.

¹⁸⁹ Exhibit R-24.

d. Whether the ICP was part of the contractual scope of delivery

(1) IEC' position

397. The Parties disagree on whether the interconnecting piping (“ICP”), i.e. the “*pipng needed to connect the GE modules to one another within the Trains*,”¹⁹⁰ was within GEOG’s original scope of delivery. This question is relevant to ascertaining the date of actual delivery since the ICP was delivered later than the rest of the modules.¹⁹¹

398. With regard to this question, IEC puts forward five arguments in the Statement of Claim:

“First, GE’s scope of supply includes modules M-2000 through M-2007. Those modules, particularly M-2000, include the ICPs that connect the various modules. In fact, the scope of supply expressly states that while the rack will be delivered as loose parts, the ‘Pipes will be delivered assembled.’

Second, GE’s scope of supply expressly excludes the ICPs ‘to non-Seller supplied equipment.’ If ICPs between Seller supplied equipment was also excluded, the contract would not have limited the exclusion to non-Seller supplied equipment but would have applied it to all ICPs. Contrary to New York law, GE’s reading of the Equipment Contract renders this clause superfluous.

Third, consistent with the first two points, the signed Minutes of Meeting of the Kickoff Meeting that occurred on September 22-23, 2014 — just after the Equipment Contract was signed — state that ICPs ‘between modules is in GE scope of supply and shipped prefabricated,’ but that ICPs “between GE equipment and non-GE equipment is not in GE scope of supply.”

Fourth, GE’s isometric drawings and P&IDs both confirm that GE has always understood the ICPs connecting its modules are within its scope of supply, while ICPs connecting the Trains to Claimants’ other equipment are not. GE’s counterclaim fails to disclose what its own drawings and diagrams expressly show.

Fifth, GE’s argument is irrational. GE sold a fully modularized plant capable of producing 0.25 MTPA of LNG. It did not sell a series of individual pieces of equipment.”¹⁹²

399. In the Claimants’ First Post-Hearing Brief, IEC points at the fact that Mr Hillier, GEOG’s expert, “*acknowledged that at the beginning of the project, Respondents placed a lump-sum order with*

¹⁹⁰ SoC, ¶432.

¹⁹¹ See below, ¶¶419-420.

¹⁹² SoC, ¶¶434-438; see also SoR, ¶¶586-589.

Turner for both the ‘provision of the modules and the pipework-related ICP’ further showing BHGE understood the ICPs to be in their scope.”¹⁹³

(2) GEOG’ position

400. In the Statement of Counterclaim, GEOG submits that “[t]he provision of interconnecting pipes (the ‘ICP’) between the modules was removed from GEOG’s Scope of Supply during contract negotiations in order to lower the price for the Trains, as IEC believed it could purchase the ICP separately from a different supplier for a lower price.”¹⁹⁴ GEOG posits that it was for that reason that “the last sentence of Section 3.1.1 of the Scope of Supply attached to the Equipment Contract states ‘Seller’s Scope of Supply ends at skid limit.’”¹⁹⁵

401. With respect to its statements to the contrary at the Kick-Off Meeting in September 2014, GEOG contends that this was a mistake and that “a misunderstanding during a complex project” does not amount to “a modification of the Equipment Contract.”¹⁹⁶

402. GEOG explains that it finally “agreed to supply the ICP on the understanding that the Parties would meet within the coming month to resolve the issue of additional compensation for the change.”¹⁹⁷

403. In the Statement of Defense, GEOG describes its understanding of the impact of the ICP issue on the date of delivery as follows:

“The Claimants argue that the final modules for Train 1 were delivered in February 2016 and the final modules for Train 2 were delivered in March 2016. Because the later deliveries included only the ICP provided pursuant to a subsequent change order and minor items, Mr. Hillier and Mr. Blinkhorn disagree with the Claimants and consider the reasonable last shipment delivery date to be October 28, 2015 for Train 1 and February 8, 2016 for Train 2.”¹⁹⁸

404. In the Respondents’ First Post-Hearing Brief, GEOG insists that the ICP was de-scoped during the contract negotiations:

“Both Parties agree that the price for each Train was negotiated from an original offer price of \$55 million per Train to the agreed contract price of \$47.5 million per Train. This circumstance indicates that some concessions were made on both sides, and one of the

¹⁹³ Cs’ PHB1, ¶217.
¹⁹⁴ SoCC, ¶171.
¹⁹⁵ SoCC, ¶171.
¹⁹⁶ SoCC, ¶172.
¹⁹⁷ SoCC, ¶173.
¹⁹⁸ SoD, ¶160.

concessions made on GEOG's part was to lower the purchase price in exchange for the de-scope of some of the parts that had been included in its offer.

One of these de-scoped items was the ICP between the modules, an item worth approximately five percent of the contract value. The last sentence of Section 3.1.1 of the Scope of Supply attached to the Equipment Contract reflects this agreement and provides that 'Seller's Scope of Supply ends at skid limit'. But, since the signing of the Equipment Contract, the Parties have been in dispute as to which Party is responsible for the ICP, which was ultimately supplied by GEOG.”¹⁹⁹

(3) Arbitral Tribunal's analysis

405. Appendix A (“Scope of Supply”) to the Equipment Contract (“**Appendix A**”) ²⁰⁰ contains a “*Preliminary module and Equipment List*” which includes modules M-2000 through M-2007. The description of each of these modules is “*Pipe Rack parts.*”²⁰¹ IEC has explained that “[t]hose modules, particularly M-2000, include the ICPs that connect the various modules.”²⁰² This was confirmed by IEC's expert, Mr Lancaster, who explained:

“When the M-2000 module is identified within the 3D CAD model of the plant. The figure below which isolates the M-2000 module highlights that it is interconnecting pipework:

[Figure 5.6 – Module M-2000 within the Plant Model]

The following provides an example of line NG208 (yellow items) which forms part of M-2000, which can be seen to interconnect a number of the plant's modules (blue items) to M-1100 as shown in the figure below:

[Figure 5.7 – Line NG208 part of M-2000, linking numerous modules to Module M-1100]

I have reviewed other lines within M-2000 in a similar manner and this demonstrates that the piping in M-2000 is comprised of ICP.

The figure below shows the connections between M-2000 (yellow items) in general and various modules (blue items). It can be seen from this that all of the piping is making connections between one or more modules or items of equipment supplied by the Respondents and can therefore be considered ICP.

[Figure 5.8 – M-2000 Piping Connections to Various Plant Modules]”²⁰³

¹⁹⁹ Rs' PHB1, ¶¶31-32.

²⁰⁰ Exhibit C-770; Exhibit R-17.

²⁰¹ Exhibit R-17, pp. 5-6.

²⁰² SoC, ¶434.

²⁰³ Exhibit CER-1, ¶¶322-325.

406. The Arbitral Tribunal finds these explanations provided by Mr Lancaster, in conjunction with the very illustrative Figures 5.6 to 5.8, to be strongly persuasive of IEC's position that the ICP was within GEOG's scope of supply. Neither GEOG nor its experts have challenged that module M-2000 is comprised of ICP that connects the various modules.
407. Moreover, Mr Lancaster has reviewed GEOG's P&IDs and concluded that "[i]n my opinion the symbology of the P&IDs also supports the inclusion of ICP within the Respondents' scope."²⁰⁴
408. In addition, Appendix A expressly excludes "[o]ther interconnecting piping to non-Seller supplied equipment" from GEOG's scope of supply.²⁰⁵ If the piping that interconnects the Seller-supplied modules were also excluded, it would make no sense for the exclusion to be circumscribed to interconnecting piping to non-Seller-supplied equipment.
409. Indeed, GEOG acknowledged at the Kickoff Meeting of 22 September 2014 that the ICP was in fact within its scope:

"Interconnecting pipe between modules is in GE scope of supply and shipped prefabricated.

*Interconnecting pipe between GE equipment and non-GE equipment is not in GE scope of supply."*²⁰⁶

410. The Arbitral Tribunal is not persuaded by GEOG's argument that this was just an error and that the contractual provision to the contrary prevails.²⁰⁷ While GEOG's statement at the Kickoff Meeting is not of paramount importance for determining this issue, and it could very well just have been an error, the Arbitral Tribunal does not agree with GEOG's contention that the sentence in Appendix A "*Seller's Scope of Supply ends at skid limit*"²⁰⁸ means that the IPC is excluded. The paragraph in question reads as follows:

*"All major equipment, piping, valves, electrical and instrument components shall be prefabricated and installed on skidded modules. These modules shall be insulated (where required by process and/or ambient conditions), painted and tested in the shop to reduce the Site installation work, ensure quality, and shorten the project delivery cycle. Seller's Scope of Supply ends at skid limit."*²⁰⁹

²⁰⁴ Exhibit CER-1, ¶333.

²⁰⁵ Exhibit R-17, p. 8, §3.1.3, No. 24.

²⁰⁶ Exhibit C-46 p. 12.

²⁰⁷ SoCC, ¶171.

²⁰⁸ Exhibit R-17, p. 7, §3.1.1.

²⁰⁹ Exhibit R-17, p. 7, §3.1.1.

411. It is clear that this refers to the skidded modules. It would be nonsensical to seek to apply the provision that “*Seller’s Scope of Supply ends at skid limit*” to modules that are not skidded, like module M-2000 which is comprised of ICP.
412. Neither is the Arbitral Tribunal convinced by GEOG’s argument that “[t]he provision of interconnecting pipes (the ‘ICP’) between the modules was removed from GEOG’s Scope of Supply during contract negotiations.”²¹⁰ The only evidence referred to by GEOG with respect to this allegation is Change Order Request No. 29²¹¹ which, however, provides no support for the foregoing. On the contrary, Change Order Request No. 29 indicates that “*GE has manufactured ICP for both trains and has shipped train 1 ICP to site,*”²¹² which strongly suggests that GEOG did not just make an error at the Kickoff Meeting, when it acknowledged that the ICP was in its scope, but that it continued to believe during the following 15 months (between the Kickoff Meeting and Change Order Request No. 29) that the ICP was within its scope and that it acted accordingly. GEOG would hardly have manufactured (or had Turner manufacture)²¹³ and shipped the ICP if it believed that it was beyond its scope.

e. Whether the Trains were delivered and, if so, when

(1) IEC’s position

413. In the Statement of Claim IEC stated that the final modules for Train 1 were delivered in February 2016²¹⁴ and that the final modules for Train 2 were delivered in March 2016.²¹⁵
414. However, IEC posits that such delivery did not satisfy GEOG’s contractual obligation as Clause 9.1 of the Equipment Contract stipulates that the Delivery Date is “*the date on which Plant in its entirety is delivered.*”²¹⁶ On this basis, IEC argues:

*“[...] neither train was delivered in its entirety when the modules were delivered because those modules were woefully incomplete. In fact, GE has now admitted that critical pipe supports, cables, VFDs, manuals and more remain outstanding. All of those elements of the Trains are unlikely to be delivered before 2020.”*²¹⁷

415. IEC adds that “[d]espite full modularity being an essential feature of the Equipment Contract, the Trains were not only delivered late, but also incomplete,”²¹⁸ i.e. “*with parts missing, leading to*

²¹⁰ SoCC, ¶171.

²¹¹ Exhibit R-128; referred to in SoCC, ¶171, Footnote 195.

²¹² Exhibit R-128.

²¹³ See Exhibit RER-07, ¶AA1.3.

²¹⁴ SoC, ¶314.

²¹⁵ SoC, ¶315.

²¹⁶ SoC, ¶316.

²¹⁷ SoC, ¶316.

²¹⁸ SoC, ¶318.

loose parts being thrown in with future module shipments and many separate deliveries containing only loose parts."²¹⁹ More specifically, IEC posits:

"In reality, thousands of parts were identified during the ensuing years as missing from these supposedly 'fully-modularized' Trains, including hundreds of valves, hundreds of instruments, hundreds (perhaps thousands) of nuts and bolts, pipe supports and U-bolts, MRC couplings, electrical cable, cable tray materials, heat tracing, and insulation.

Missing items on both Trains 1 and 2 have been continually shipped for years. For example, missing items on ten different modules of Train 1 were shipped in May and June 2017, and items for another Train 1 module were shipped in January 2018. Similarly, missing items on ten different modules on Train 2 were shipped in June and September 2017 followed by items for another Train 2 module in January 2018. And, even this year, GE continues to ship missing items for modules on both Trains 1 and 2.

*In reality, both Trains were largely fabricated — and sometimes re-fabricated — on site in Nigeria between 2016 and today. As of today, significant additional work remains necessary. [...]"*²²⁰

(2) GEOG's position

416. In the Statement of Counterclaim GEOG maintains that *"Train 1 was fully delivered at the Port of Houston on October 23, 2015, and Train 2 was fully delivered at the Port of Houston on February 3, 2016."*²²¹

417. In the Statement of Defense, GEOG explains that the divergence with IEC as regards the dates of delivery of the final modules is owed to the different views on whether the ICP was within GEOG's scope:

*"The Claimants argue that the final modules for Train 1 were delivered in February 2016 and the final modules for Train 2 were delivered in March 2016. Because the later deliveries included only the ICP provided pursuant to a subsequent change order and minor items, Mr. Hillier and Mr. Blinkhorn disagree with the Claimants and consider the reasonable last shipment delivery date to be October 28, 2015 for Train 1 and February 8, 2016 for Train 2."*²²²

²¹⁹ SoC, ¶319.

²²⁰ SoC, ¶¶320-322; see also SoR, ¶¶421-422, 546; Cs' PHB1, ¶¶23-30, 66, 73, 85.

²²¹ SoCC, ¶74.

²²² SoD, ¶160.

(3) **Arbitral Tribunal's analysis**

418. Having determined that the ICP was part of GEOG's scope of delivery, the Arbitral Tribunal finds that the final modules of both Trains, including the ICP, were delivered on 28 March 2016.
419. This follows from the Parties' submissions and the expert testimony. GEOG's experts, Messrs Blinckhorn and Hillier, stated that the final modules, including ICP, were delivered on 28 March 2016 (for both Trains 1 and 2).²²³ IEC provided slightly different dates for delivery of the final modules: February 2016 (for Train 1) and March 2016 (for Train 2).²²⁴
420. The Tribunal bases its finding that both Trains were delivered on 28 March 2016 on Mr Hillier's second expert report which explains that the final modules (including the ICP for both Trains as well as four modules related to electrical switchgear, i.e. motor control centers) were delivered with Shipment H11, on 28 March 2016:²²⁵

"H11 – 28 March 2016

i Train 2 – 4 modules (Electrical room)

ii Container 4165575 (ICP – Electrical racking, plus nuts, bolts and other minor items

ICP – 7 pipe spools)

iii Container 4189828 (ICP – Electrical cable, approximately 23,000m

ICP – tubing, approximately 2,600m

*ICP – Instrument cable, approximately 32,000ft)"*²²⁶

421. However, IEC argues that, pursuant to Clause 9.1, the Delivery Date is the date on which the Train in its entirety is delivered, which is not the case until critical pipe supports, cables, VFDs,²²⁷ manuals and more are delivered.²²⁸ It further contends that "*delivery of the Trains cannot occur until the engineering is performed,*"²²⁹ and thus the existence of any design/engineering defects that require rectification exclude delivery. On that basis, it contends that the Trains are yet undelivered.²³⁰ IEC's expert, Mr Lancaster, posits that delivery was still ongoing on 15 November 2019²³¹ and that at some point around November / December 2017 there was a critical path transfer from "*the general delays to the trains caused by late, incomplete and poor quality module*

²²³ Exhibit RER-14, ¶¶4.1.10; Exhibit RER-16, ¶¶8.3.4.4-8.3.4.6

²²⁴ SoC, ¶¶314-315.

²²⁵ Exhibit RER-16, ¶8.3.4.4-8.3.4.5.

²²⁶ Exhibit RER-16, ¶8.3.4.3.e.

²²⁷ Variable frequency drive ("VFD").

²²⁸ SoC, ¶316; Cs' PHB1, ¶¶23-26.

²²⁹ Cs' PHB1, ¶¶66, 73, 85.

²³⁰ Cs' PHB1, ¶¶27-30.

²³¹ Exhibit CER-7, ¶126.

supply, to the parallel ongoing issues of the MV Cable, VFD, and Pipe Stress analysis, but effectively these three (3) items are only the on-going components of this incomplete and late supply and have been separated only as they are yet to be resolved.”²³²

422. IEC’s argument raises the question of the distinction between delivery of a defective Train (i.e. non-conformity), and incomplete delivery (i.e. non-delivery) of a Train, or, in Respondents’ counsel’s words, the “*distinction between a warranty claim and a late delivery claim.*”²³³

423. Clause 9.1, on which IEC relies for its argument, reads as follows:

*“Seller shall deliver the Plants and the Parts FCA Port of Export (Incoterms 2010). Except for those obligations expressly set forth in the applicable Incoterms 2010, Seller shall not be liable in any claim asserted by Buyer with respect to delivery beyond that point. The Delivery Date for each Plant is the date on which Plant in its entirety is delivered in accordance with this Clause. Partial deliveries of portions and/or modules of a Plant will be permitted. Where a partial delivery is possible, Seller shall deliver those portions and/or modules of a Plant, as and when ready, FCA Port of Export (Incoterms 2010), and the Parties shall cooperate to identify the most opportune sequence of the completion and delivery of portions/modules and shall endeavor to work out an agreed schedule for delivery of same. For the avoidance of doubt, delivery of a Plant for purposes of the Delivery Date shall occur only when the Seller has complied with all of its delivery obligations for the Plant in its entirety.”*²³⁴

424. The stipulation that “*delivery of a Plant for purposes of the Delivery Date shall occur only when the Seller has complied with all of its delivery obligations for the Plant in its entirety*” is found in the context of a provision allowing for partial deliveries. In the Arbitral Tribunal’s view, the purpose of this stipulation is to make clear that by making such partial deliveries GEOG is in no way deemed to have discharged its delivery obligation. For example, liquidated damages for delay become due in full, as per Clause 6.5., if even a single module remains undelivered by the Delivery Date. In contrast, the purpose of the stipulation is not to exclude delivery if the Train bears a defect or is missing minor commodity-type fungible items.

425. Thus, if critical equipment had indeed not been delivered, the delivery would be incomplete.

426. In contrast, if such equipment had been delivered but had been defective, such defect would not negate delivery having occurred. Likewise, the Arbitral Tribunal does not agree that the existence

²³² CER-7, ¶124.

²³³ Tr. Day 8, 114:5-6.

²³⁴ Equipment Contract, Clause 9.1.

of design/engineering defects that require rectification negates delivery of the Trains. The following issues complained about by IEC pertain to defects, not to non-delivery:

- (i) Ineffective starting mechanism for MRC (unworkable soft-starter).²³⁵
- (ii) Dangerously undersized electrical cables (MRC Motor electrical cables).²³⁶
- (iii) Inadequately supported pipes (stress analyses).²³⁷
- (iv) Unsafe flare system.²³⁸
- (v) No tropicalization.²³⁹
- (vi) Defectively engineered MR coolers module.²⁴⁰
- (vii) Delivery of untested interconnecting pipes.²⁴¹
- (viii) Delivery of substantially misaligned modules.²⁴²
- (ix) Defectively fabricated static mixer (backwards installation).²⁴³
- (x) Improperly engineered and installed expansion bellows.²⁴⁴
- (xi) Defective inlet guide vanes on the MRCs.²⁴⁵
- (xii) Defective and incomplete automation system.²⁴⁶
- (xiii) Defective electrical cable boxes.²⁴⁷
- (xiv) Inferior boil-off gas compressor.²⁴⁸
- (xv) Amine column pumps without glycol protection.²⁴⁹

427. The following issues complained about by IEC are missing commodity-type fungible items which, in the Arbitral Tribunal's view do not negate delivery of the Trains:

- (i) Tens of thousands of missing and defective nuts, bolts, and studs.²⁵⁰

²³⁵ SoC, ¶¶206-211; Cs' PHB1, ¶¶67-74; Cs' PHB2, ¶¶10(iii), 36-38.

²³⁶ SoC, ¶¶191-196; Reply, ¶¶194-214; Cs' PHB1, ¶75-81.

²³⁷ SoC, ¶¶197-205; Reply, ¶¶112-137; Cs' PHB2, ¶¶41-45.

²³⁸ SoC, ¶¶182-190; Reply, ¶¶152-193; Cs' PHB1, ¶82-85; Cs' PHB2, ¶¶10(iv), 39-40.

²³⁹ SoC, ¶¶61, 336-340.

²⁴⁰ SoC, ¶¶212-215.

²⁴¹ SoC, ¶¶216-220; Reply, ¶26.

²⁴² SoC, ¶¶221-224; Reply, ¶27.

²⁴³ SoC, ¶¶225-230; Reply, ¶28.

²⁴⁴ SoC, ¶¶231-237; Reply, ¶¶29-30.

²⁴⁵ SoC, ¶¶238-240; Reply, ¶31.

²⁴⁶ SoC, ¶¶241-243; Reply, ¶32.

²⁴⁷ SoC, ¶¶265-271; Reply, ¶38.

²⁴⁸ SoC, ¶¶286-288; Reply, ¶43.

²⁴⁹ SoC, ¶¶289-291; Reply, ¶44.

²⁵⁰ SoC, ¶¶272-278; Reply, ¶¶39-40.

- (ii) Failure to provide heat tracing on equipment and lines.²⁵¹
428. For the same reasons, the following issues, which are combinations of defective and missing commodity-type fungible items, do not negate delivery of the Trains:
- (i) Unaligned MRCs and missing couplings.²⁵²
- (ii) Hundreds of missing, improperly engineered or fabricated, and defective valves.²⁵³
- (iii) Hundreds of missing, defective and improperly sized instruments.²⁵⁴
- (iv) Hundreds of rusted or missing spectacle blinds.²⁵⁵
429. The last item in IEC's complaint is: Incomplete Operation and Maintenance Documentation.²⁵⁶ Clause 12.2 of the Equipment Contract provides that "[a]ll *Technical Documentation will be transmitted to Buyer in their as built status and so marked, in one package called the Final Technical File, according to the Agreement and at the latest one (1) Month after the Delivery Date.*" It follows logically from the fact that this package may be delivered after the Delivery Date that incomplete delivery of Technical Documentation (which includes the Operation and Maintenance Manuals)²⁵⁷ does not negate delivery of the Trains.
430. Hence, having examined all of the issues complained about by IEC, the Arbitral Tribunal finds that none of them negate delivery of the Trains, regardless of how seriously they may affect the operation or safety of the Trains.
431. The Arbitral Tribunal also notes that IEC's contention that the Trains are yet undelivered is inconsistent with its claim for damages for the loss of the warranty value of Trains 1 and 2, which is based on Mr Helsen's statement that "[t]he warranty periods for the GE liquefaction plants and related parts expired 30 months and 18 months after the Delivery Dates, respectively."²⁵⁸

f. Conclusion

432. IEC has made a timely claim for liquidated damages under Clause 6.5 of the Equipment Contract.

²⁵¹ SoC, ¶¶283-285; Reply, ¶42; Cs' PHB1, ¶40.

²⁵² SoC, ¶¶244-248; Reply, ¶33.

²⁵³ SoC, ¶¶249-257; Reply, ¶¶34-36.

²⁵⁴ SoC, ¶¶259-264; Reply, ¶37.

²⁵⁵ SoC, ¶¶279-282; Reply, ¶41.

²⁵⁶ SoC, ¶¶297-300; Reply, ¶46; Cs' PHB1, ¶30.

²⁵⁷ Clause 12.2, paragraph 5, of the Equipment Contract.

²⁵⁸ Exhibit CWS-5, ¶71, third bullet point.

433. GEOG is not entitled to an extension of the Delivery Date under Clause 6.3 of the Equipment Contract. Thus, the Delivery Dates remain as agreed by virtue of Change Order Request No. 19:²⁵⁹
- (i) Train 1: 24 June 2015.
 - (ii) Train 2: 24 September 2015.
434. Liquidated damages started accruing,
- (i) on 23 July 2015 for Train 1, and
 - (ii) on 23 October 2015 for Train 2.
435. And the Delay Limit Date was,
- (i) 30 September 2015 for Train 1, and
 - (ii) 31 December 2015 for Train 2.
436. The ICP was within GEOG's scope of delivery and, thus, the Trains were delivered on 28 March 2016, i.e. each after their respective Delay Limit Date.
437. Therefore, the Claimants are entitled to the maximum amount of liquidated damages for late delivery for both Trains, i.e. USD 4,750,000, in total (5% of the Contract Price).
438. With regard to GEOG's proposition that "[t]he Equipment Contract has interesting language for the application of liquidated damages that gives rise to questions as to whether the stipulated amounts would still be due, or subject to a reduction, in the absence of a demonstrated loss from delay or a demonstration of Respondent GEOG's responsibility for the delay,"²⁶⁰ the Arbitral Tribunal notes (i) that it does not consider that Clause 6.5 of the Equipment Contract requires the demonstration of a loss in order for liquidated damages for delay to be due in full, and (ii) that the Arbitral Tribunal has already determined that GEOG is responsible for the delay.

**2. Direct damages related to the remediation of defects by IEC in lieu of GEOG
(Clause 17.4(i) of the Equipment Contract)**

**a. Preliminary issue: Whether Claimants have made a claim under
Clause 17.4(i) of the Equipment Contract**

439. The Respondents assert that "*IEC is not claiming [...] remedies under the warranty provision provided for 'the Seller's failure or inability to remedy the defects' (Clause 17.4).*"²⁶¹

²⁵⁹ Exhibit R-24.

²⁶⁰ Rs' PHB2, ¶14.

²⁶¹ Rs' PHB1, ¶82.

440. In their Statement of Claim, the Claimants have made the allegation –with specific reference to Clause 17.4 of the Equipment Contract–²⁶² that “*GE has been unable to fix many of these Defects.*”²⁶³ It is true that in Section IV.C of the Statement of Claim, the Claimants only cite Clause 6.6 of the Equipment Contract as contractual basis for their direct damages claims.²⁶⁴ However, the request for relief for damages “*as articulated in [...] the Witness Statement of Erik Helsen*”²⁶⁵ is not limited to any given contractual provision.
441. In any event, in their First Post-Hearing Brief the Claimants clarified that “*if the Tribunal concludes that the Plants were at some point delivered (which they were not) and were subsequently delayed due to defects, damages from that portion of the delay would be recoverable under Clause 17 rather than under Clause 6.6.*”²⁶⁶ And they specifically listed within those damages arising from GEOG’s failure or inability to remedy defects, as per Clause 17.4 of the Equipment Contract, “*the amounts spent to purchase and install the HHR system, external engineering support from Softec and the Lisbon Group, and the costs of the VFD and its installation, as well as additional costs that Claimants are still incurring to remedy BHGE’s defective work.*”²⁶⁷
442. And the Respondents noted in their Second Post-Hearing Brief that “*in the Claimants’ Post-Hearing Submission we find a distinction between the damages for delay under Clause 6 of the Equipment Contract and the costs of repair/replacement under Clause 17 of the same contract.*”²⁶⁸ The Respondents challenge the Clause-17.4 claim by pointing at the supposed inconsistency of the Claimants’ position, for assuming and at the same time denying that delivery of the Trains occurred.²⁶⁹ But they no longer seem to deny that the Claimants have made such claim.

b. Heavy hydrocarbon removal system

443. IEC claims for the costs of purchase and installation the required heavy hydrocarbon removal system (“HHR”). IEC’s witness, Mr Helsen explains in this regard:

“[...] the total direct costs that Claimants have incurred as a result of the need to install an HHR system is \$20,546,934.44, comprised of \$12,077,457.66 in equipment and related transport costs and \$8,469,476.78 in assembling and civil works in Nigeria.

²⁶² SoC, ¶95.

²⁶³ SoC, ¶96.

²⁶⁴ SoC, ¶396.

²⁶⁵ SoC, ¶514(f).

²⁶⁶ Cs’ PHB1, ¶134.

²⁶⁷ Cs’ PHB1, ¶133; these are precisely the damages items analysed in this section.

²⁶⁸ Rs’ PHB2, ¶37.

²⁶⁹ See Rs’ PHB2, ¶¶19, 37-40.

Claimants recognize (as mentioned by Mr. Hillier) that the HHR system is also being used in connection with Train 3. I have therefore allocated two-third of the total costs incurred to Trains 1 and 2, resulting in a revised amount claimed of \$13,697,562.29.”²⁷⁰

(1) Whether the process design was defective and the costs of the HHR were incurred as a result of GEOG’s failure or inability to remedy such defect

(a) IEC’s position

444. In the Statement of Claim, IEC argues that the HHR came to be required as a consequence of GEOG’s flawed process design. It explains that GEOG’s original design of the Trains, which had a first pass of the cold box of -6.252 °C,²⁷¹ was fatally defective because it failed to provide for proper separation of the heavy hydrocarbons (“HHCs”). As a result of that defect, there was a high risk that HHCs would freeze on the second pass.²⁷²
445. IEC further claims that, around the time the Equipment Contract was signed, GEOG became aware of this problem and proceeded to re-engineer the process in secret.²⁷³ This re-design entailed a lowering of the first pass temperature to -62.35 °C.²⁷⁴ Accordingly, IEC alleges, GEOG ordered from Chart, on or before 13 October 2014, a cold box that could operate in a range between -60 °C to -70 °C for the first pass.²⁷⁵
446. On 9 October 2014, GEOG released a heat material balance under Transmittal 0010²⁷⁶ which was consistent with the one in the Equipment Contract and which, in particular, still showed a first pass temperature of -6.252 °C.²⁷⁷
447. On 15 September 2015, GEOG released a new heat material balance under Transmittal 0128,²⁷⁸ which showed the lower first pass temperature of -62.35 °C.²⁷⁹
448. IEC asserts that with the contract feed gas and a first pass outlet temperature of -62.35 °C, each Train would produce 680.6 TPD²⁸⁰ of LNG and 85.3 TPD of unstabilized condensate, which is substantially below the contractually guaranteed LNG Throughput Capacity of 765.1 TPD of LNG

²⁷⁰ Exhibit CWS-10, ¶32

²⁷¹ See Exhibit C-45, legible version of heat material balance diagram contained in Annex B of Appendix A.

²⁷² SoC, ¶¶167, 171-172.

²⁷³ SoC, ¶168.

²⁷⁴ SoC, ¶177.

²⁷⁵ SoC, ¶175.

²⁷⁶ Exhibit C-254.

²⁷⁷ SoC, ¶170.

²⁷⁸ Exhibit C-259.

²⁷⁹ SoC, ¶¶176-177.

²⁸⁰ Tons per day.

(as per Clause 4.1 of Appendix A) and substantially above the 8.562 TPD of unstabilized condensate shown in the heat material balance diagram contained in the Equipment Contract²⁸¹.²⁸²

449. IEC alleges that “[w]hen Claimants raised the inconsistencies between the TM-0010 and TM-0128 HMBs with GE, GE revealed that Claimants needed to purchase additional, long-lead equipment — expensive fractionation columns — to separate the various hydrocarbons by type.”²⁸³ Similarly, they assert: “Recognizing this deficiency, GE admitted to Claimants in late 2016 that they would need to purchase a fractionation column in order to obtain the contractually specified volumes of LNG.”²⁸⁴
450. IEC explains that GEOG proposed to sell IEC an HHR, but IEC chose to purchase it from CryoSys, which was able to deliver it more quickly and at a better price.²⁸⁵ IEC claims USD 19,811,753.66, which includes the cost of purchasing the HHR from CryoSys (USD 12.07 million), and the expenses incurred to install that system (USD 7.73 million).²⁸⁶
451. In the Statement of Reply, IEC insists that the original design of the Trains was defective and in this regard it explains that there was, at most, a theoretical 2° C margin against freezing, which is too narrow.²⁸⁷
452. Further, IEC challenges GEOG’s claim that the lowering of the first pass temperature was a consequence of IEC’s request for flexibility to use both pressurized and atmospheric storage.²⁸⁸
- (i) It argues that before the Equipment Contract was signed, GEOG provided it with two process flow diagrams showing the liquefaction performance of the Trains, one using atmospheric storage and the other using pressurized storage,²⁸⁹ and that both used the same feed gas composition and produced virtually identical volumes of LNG and waste condensate from virtually identical volumes of feed gas and power.²⁹⁰
 - (ii) Moreover, it argues that the change consisting of lowering the first pass temperature was made by no later than 20 September 2014 and that, according to GEOG, it was not until 27-28 October 2014 that IEC made the request for atmospheric storage.²⁹¹ IEC concludes that

²⁸¹ See Exhibit C-45, legible version of heat material balance diagram contained in Annex B of Appendix A.

²⁸² SoC, ¶¶178, 325.

²⁸³ SoC, ¶179.

²⁸⁴ SoC, ¶326.

²⁸⁵ SoC, ¶179.

²⁸⁶ SoC, ¶398.

²⁸⁷ SoR, ¶¶68-81.

²⁸⁸ SoR, ¶¶58-59.

²⁸⁹ Exhibits C-43 and C-44.

²⁹⁰ SoR, ¶¶58-67.

²⁹¹ SoR, ¶¶60-66.

the change of lowering the first pass temperature was made by no later than 20 September 2014 on the basis of an email exchange between Mr Zhao, a GEOG engineer, and Mr Bergmann, of Chart.²⁹² On 15 September 2014, Mr Zhao wrote to Mr Bergmann: “*I understand that you are having a difficulty with the feed gas stream temperature compared to CGC, let us talk to see how we can solve it or we have to do some modification.*”²⁹³ The next day, Mr Bergman replied to Mr Zhao: “*We finished re-designing the heat exchanger today [...]. You’ll notice the A/B/C location needs to be moved back down the core. Like you suggested, closer to CGC,*”²⁹⁴ i.e. closer to Shell’s Train 3. IEC explains that outlet of Pass A on the cold box of Shell’s Train 3 is -75.2 °C²⁹⁵ and that “[m]oving the A/B/C location down the core, closer to CGC, meant changing the Pass A outlet temperature from -6.252° C to something colder.”²⁹⁶ IEC further explains that by 20 September 2014, Mr Zhao had prepared an updated HMB (labeled “Case-100A Rev-2”),²⁹⁷ which was for pressurized storage and had a Pass A outlet temperature of -70 °C.²⁹⁸ IEC further points out that the accompanying notes state that the HMB was updated, inter alia, to reflect “*MRC performance based on Cameron’s MRC proposal dated on 9/19/2014*” and “*the main HTX performance based on Chart’s datasheets dated on 9/19/2014*”²⁹⁹ and that there is no mention of atmospheric storage.³⁰⁰ IEC further argues that the data sheet for the Cold Boxes, as delivered, issued by Chart on 1 October 2014,³⁰¹ has a first pass temperature of 70.1 °C and that it was designed and intended for pressurized storage.³⁰²

453. IEC argues that GEOG always knew, but kept secret, that it was building Trains that could not meet the guaranteed performance specifications.³⁰³
454. IEC goes on to explain that the Basis of Design sent with Transmittal TM-008,³⁰⁴ and which included both pressurized and atmospheric storage, became the contractual basis of design.³⁰⁵ And it adds that GEOG did not inform IEC of any change to the Guaranteed Performances, and it did not propose an update to Annex B to Appendix A but, on the contrary, with transmittal TM-0010, GEOG sent the same process flow diagram as in Annex B to Appendix A, thus

²⁹² Exhibit R-257 (the references to Exhibit R-253 in the SoR, Footnotes 108-113, seem to be mistaken).

²⁹³ Exhibit R-257, p. 2.

²⁹⁴ Exhibit R-257, p. 1.

²⁹⁵ SoR, ¶61, with reference to Exhibit C-974.

²⁹⁶ SoR, ¶61, with reference to Exhibit CER-6, ¶6.13.

²⁹⁷ Exhibit R-234.

²⁹⁸ SoR, ¶62.

²⁹⁹ Exhibit R-234, p. 4.

³⁰⁰ SoR, ¶63.

³⁰¹ Exhibit C-890.

³⁰² SoR, ¶65.

³⁰³ SoR, ¶¶82-99.

³⁰⁴ Exhibit C-883.

³⁰⁵ SoR, ¶¶100-107.

*“(mis)represent[ing] to Claimants that the Amended BOD with atmospheric as well as pressurized storage did not change the Guaranteed Performances and did not require an update to Annex (B).”*³⁰⁶

455. In the Claimant's Second Post-Hearing Brief, IEC challenges GEOG's claim that the feed gas changes drove the process design.³⁰⁷ It argues, among others, that the first time it asked for a simulation of a potential alternative gas composition the final cold box design was long completed.³⁰⁸

(b) GEOG's position

456. GEOG asserts in their Statement of Counterclaim that the originally envisaged gas composition did not have HHCs and, therefore, no HHR was required nor, of course, included within GEOG's scope of supply.³⁰⁹ GEOG explains that, however, due to subsequent changes in the gas composition and the discovery of the presence of HHCs in the feed gas, in early 2017, it determined that an HHR was required.³¹⁰
457. In the Statement of Defense, GEOG explains that the original process design, with a higher first pass temperature, worked.³¹¹ But it was premised on the use of pressurized storage.³¹² However, GEOG explains that on 27-28 October 2014 IEC specifically requested to have *“flexibility to be able to use pressurized load out and atmospheric load out”*³¹³ and that this request was highlighted and confirmed at a 9-10 December 2014 meeting.³¹⁴ GEOG asserts that it was this change requested by IEC that rendered necessary a lowering of the first pass temperature.³¹⁵ This lowered temperature *“produces increased levels of condensate containing C1, C2 and C3 components, with, potentially, the requirement for an HHR.”*³¹⁶
458. GEOG points out that as early as 10 October 2014 GEOG shared with IEC heat material balances with a first pass temperature of -70 °C.³¹⁷ These heat material balances were “[f]or the

³⁰⁶ SoR, ¶110; see also Cs' PHB2, ¶22.

³⁰⁷ Cs' PHB2, ¶¶31-33.

³⁰⁸ Cs' PHB2, ¶¶33.

³⁰⁹ SoCC, ¶142.

³¹⁰ SoCC, ¶142; see also ¶70, third bullet point: *“as a result of further analysis on the gas supplied to the plant”*; and ¶36: *“the heavy hydrocarbon system [...] was required by the feed gas of the Rumuji Plant.”*

³¹¹ SoD, ¶32.

³¹² SoD, ¶32.

³¹³ SoD, ¶39, quoting from Exhibit C-51, p. 6.

³¹⁴ SoD, ¶39, referring to Exhibit R-31, point 3.5.

³¹⁵ SoD, ¶31; see also ¶¶41 and 43.

³¹⁶ SoD, ¶31.

³¹⁷ SoD, ¶38; referring to Exhibit C-626.

*four process scenarios you have requested (pressurized tank vs atmospheric tank and Frame 5 turbine vs LM2500 turbine)."*³¹⁸

459. In the Respondents' First Post-Hearing Brief, GEOG explains that it *"designed the cold box and the liquefaction process in order to accommodate IEC's request to have the Trains able to operate under pressurized or atmospheric storage and to obtain enough flexibility to deal with different potential gas compositions."*³¹⁹

460. And it argues that regardless of the cold box configuration, with the gas that IEC is using today, an HHR would be required.³²⁰

461. Further, GEOG points out that up until after this arbitration commenced IEC assumed that the cost of the HHR was its responsibility.³²¹

462. In the Respondents' Second Post-Hearing Brief, GEOG points out that from IEC's argument that *"the Trains are not capable of producing the contractually specified 765TPD of LNG without substantially increasing the amount of feed gas and power required, and producing exorbitant amounts of waste condensate"*³²² it follows that *"the Trains are capable of producing the contractually specified amount of LNG, at the cost of an increased amount of feed gas, power consumption and condensate."*³²³

463. As regards the timing of the decision on the final configuration of the cold box, GEOG asserts:

*"[...] the first pass temperature of the cold box was only changed on October 13, 2014, at the time the order was placed with Chart. All the previous cases developed by GEOG and Chart were hypotheses, to analyze how the cold box could have worked at different temperatures, in different scenarios, with different gas compositions."*³²⁴

(c) Arbitral Tribunal's analysis

i. Preliminary issue: the reasons and timing of GEOG's decision to lower the first pass temperature

464. While understanding the reasons and timing of GEOG's decision to lower the first pass temperature might provide useful context, making final determinations in this regard is not essential to adjudicating IEC's claim for the costs of the HHR. For that task it is sufficient that the Arbitral Tribunal determine whether the process design of the Trains, as built, is in fact defective,

³¹⁸ SoD, ¶138, quoting from Exhibit C-626.

³¹⁹ Rs' PHB1, ¶92.iii.

³²⁰ Rs' PHB1, ¶97.

³²¹ Rs' PHB1, ¶¶96-97.

³²² Rs' PHB2, ¶85, quoting from Cs' PHB1, ¶137, emphasis in the original quote by Respondents.

³²³ Rs' PHB2, ¶86.

³²⁴ Rs' PHB2, ¶91.

and whether the costs of the HHR are damages incurred as a result of GEOG's failure or inability to remedy such defect.

465. These determinations can be made –and are made below–³²⁵ regardless of the timing and reasons that led to the process design of the Trains, as built. Nonetheless, given the vast time and effort the Parties have spent on the issue of the lowering of the first pass temperature, the Arbitral Tribunal shall briefly share its findings in this regard.
466. The Parties' competing explanations are as follows:
467. IEC maintains that GEOG became aware that its original design was defective because of the risk of freezing and that, in order to solve this problem, it lowered the first pass temperature. IEC alleges that GEOG made this change by no later than 20 September 2014.³²⁶
468. GEOG's position is less clear. GEOG explains in the Statement of Defense that “[t]he Cold Box was changed compared with the basis of design due to the need to accommodate IEC's request for atmospheric storage, **regardless of the gas composition.**”³²⁷ But in the same brief GEOG also explains that the gas composition had an impact on the cold box design.³²⁸ And GEOG's Technical Report submitted with Mr Amidei's witness statement³²⁹ explains that “*GE modified the selection of the cold box moving from the contractual heat and material balance to an alternative design to avoid any freezing risk of Benzene **caused by those potential changes of the feed gas.***”³³⁰ But GEOG's Technical Report also indicates that this was not the single cause of the change but that the change to atmospheric storage also motivated the design change of the cold box:

*“Both changed requirements, the dual product storage concept and the uncertain composition of available feed gas, led GE in good faith to modify the process design and deriving to the common conclusion with IEC for implementation of a heavy hydro carbon removal section.”*³³¹

469. The Arbitral Tribunal is not sure whether GEOG's contention is that the first pass temperature was lowered due to:
- (i) uncertain composition of available feed gas/potential changes of the feed gas;

³²⁵ §§X.B.2.b(1)(c)ii and X.B.2.b(1)(c)iii.

³²⁶ SoR, ¶66.

³²⁷ SoD, ¶43, emphasis added.

³²⁸ SoD, ¶23, Table 1, Item 4; see also Appendix A to Exhibit RWS-8, Table at pp. 16-17, Item 4.

³²⁹ Exhibit RWS-8.

³³⁰ Appendix A to Exhibit RWS-8, p. 17, emphasis added.

³³¹ Appendix A to Exhibit RWS-8, p. 18; in Rs' PHB1, ¶92.iii., GEOG also alleges that both elements drove the lowering of the first pass temperature.

- (ii) the need to accommodate IEC's request for atmospheric storage; or
- (iii) both.

470. Also, GEOG's allegations on the timing of the change remain rather vague and inconsistent.

- (i) In the Statement of Defense, GEOG makes clear that the change had already been made by 10 October 2014:³³²

"Indeed, the truth is that GEOG 'knew', shortly after the Equipment Contract was signed, that the Cold Box does not cool the vapor to -6.252° C. The same information was shared with IEC on October 10, 2014, as an attachment to an email that GEOG sent to IEC 'for the four process scenarios you have requested (pressurized tank vs atmospheric tank and Frame 5 turbine vs LM2500 turbine)'. In all of the drawings attached to that email, the temperature of the first pass of the Cold Box was indicated as -70° C."

- (ii) In the Respondents' Second Post-Hearing Brief, GEOG asserts that *"the first pass temperature of the cold box was only changed on October 13, 2014, at the time the order was placed with Chart."*³³³
- (iii) GEOG's Technical Report narrates that during the 23 September 2014 Kickoff Meeting, *"the Customer requested some changes based on use of atmospheric LNG storage tanks."*³³⁴ It continues relating that *"In October, the team worked with the Gas Turbine (GT) team to provide a BOG composition based on the storage information provided by the Customer on October 3, 2014."*³³⁵ It is unclear to the Arbitral Tribunal what information provided by IEC on 3 October 2014 the Report refers to. In any event, the Report continues: *"The first official revision of the Basis of Design, Rev 1, was issued on October 3, 2014, TM-0008."*³³⁶ This appears to refer to Exhibit C-883, which is a Basis of Design based on atmospheric and pressurized storage.³³⁷ Finally, the Report states:

*"The BAHX E-0401 datasheet rev 0 TM-0055 was issued for quote on October 7, 2014 and specified that the temperature of the discharge from pass A should be -70°C. However, by using a bypass, a higher temperature was achievable."*³³⁸

³³² SoD, ¶138.

³³³ Rs' PHB2, ¶191.

³³⁴ Appendix A to Exhibit RWS-8, p. 7.

³³⁵ Appendix A to Exhibit RWS-8, p. 7.

³³⁶ Appendix A to Exhibit RWS-8, p. 8.

³³⁷ Exhibit C-883, p. 9, Note 7-1: *"Total LNG storage capacity per unit 30,000 m³ tank will be atmospheric and 2,500 m³ tank will be pressurized"*; see also SoR, ¶105.

³³⁸ Appendix A to Exhibit RWS-8, p. 8.

The Arbitral Tribunal understands this passage to mean that on 7 October 2014 GEOG sent to Chart a datasheet with specifications for the brazed aluminum heat exchanger of the cold box which included a first pass temperature of -70 °C. However, the Arbitral Tribunal has not been able to identify any exhibit corresponding to this datasheet of 7 October 2014.

Finally, the Report mentions later instances in which IEC confirmed its desire to retain flexibility to use both pressurized and atmospheric storage.³³⁹

471. The first mention of a first pass temperature lowered to -70 °C can be found as early as 18 September 2014, when Mr Zhao sent Mr Bergman *“the HP case with changed outlet temperature of Pass A to [-]70C now.”*³⁴⁰ The HMB labeled “Case-100A Rev-2”³⁴¹ was for pressurized storage and it preceded the first time that IEC expressed a wish for being able to use atmospheric storage. The issuance of this HMB does not necessarily mean that GEOG had made a final decision to lower the first pass temperature. But it seems clear that the first time that GEOG considered the possibility of lowering the first pass temperature, this option was unrelated to IEC’s –later– request for atmospheric storage. Perhaps GEOG was considering the lower first pass temperature in order to address the alleged uncertainties surrounding the feed gas composition. Perhaps GEOG was considering it in order to address the alleged issue of the risk of freezing. Or perhaps there was a different reason. The Parties have not sufficiently explained³⁴² the nature of the *“difficulty with the feed gas stream temperature”* mentioned in Mr Zhao’s email of 15 September 2015, and the Arbitral Tribunal is not able to determine whether the lower first pass temperature in the updated HMB of 20 September 2014 was intended to address this difficulty.
472. In any event, it appears that that by 1 October 2014 the first pass temperature had been lowered to -70.1 °C. This follows from the fact that the Chart data sheet of the as-built cold box³⁴³ is dated 1 October 2014 and it already had a first pass temperature of -70.1° C.³⁴⁴ The Arbitral Tribunal is not sure about the relevance of the *“BAHX E-0401 datasheet rev 0 TM-0055,”* which according to the GEOG’s Technical Report *“was issued for quote on October 7 and specified that the*

³³⁹ Appendix A to Exhibit RWS-8, p. 8: *“IE&C stated in a Customer meeting held on October 27, 2014: [...] ‘IE&C would like to have flexibility to be able to use pressurized load out and atmospheric load out. But the setup up and design around the storage tank will be based on pressurized loadout.’”*; p. 17: *“Only on November 14, 2014 IE&C informed GE to finally adjust the design for atmospheric storage.”*

³⁴⁰ Exhibit R-267.

³⁴¹ Exhibit R-234.

³⁴² See SoR, ¶60 and Appendix A to Exhibit RWS-8, p. 6: *“Suppliers where contacted to validate the conceptual design. Chart was contacted on September 03, 2014 and them [sic] on September 15, 2014. Additional conversations related to the design of the cold box where poorly documented but based on an email, CTRL-00043224 [Exhibit R-257], Chart was ‘having a difficulty with the feed gas stream temperature compared to CGC’. Multiple iterations were completed with Chart.”*; and p. 7: *“”*

³⁴³ Exhibit C-1032.

³⁴⁴ SoR, ¶65.

temperature of the discharge from pass A should be -70°C.”³⁴⁵ But from the date of the Chart data sheet of the as-built cold box it follows that Chart was already considering a first pass temperature of -70.1° C by 1 October 2014.³⁴⁶

473. For the following reasons, it seems very doubtful that IEC’s request for atmospheric storage had any impact on the decision to lower the first pass temperature:

- (i) The evidence shows that IEC confirmed to GEOG that they wanted to use both pressurized and atmospheric storage by email of 1 October 2014.³⁴⁷ This is consistent with GEOG’s internal emails of 2 October 2014, discussing the possible “*impact of atmospheric storage tanks*” on the cold box design.³⁴⁸ By the time GEOG was having these internal discussions, the Chart data sheet of the as-built cold box had already been issued (on 1 October 2014). It already had a first pass temperature of -70.1 °C and it was based on pressurized storage only. No design changes to the cold box were made after IEC’s request for atmospheric storage. It may be true that, as GEOG claims, before the cold box was actually ordered with Chart on 13 October 2014,³⁴⁹ “[a]ll the previous cases developed by GEOG and Chart were hypotheses, to analyze how the cold box could have worked at different temperatures, in different scenarios, with different gas compositions.”³⁵⁰ But it also seems clear that the configuration with the lower first pass temperature was the most serious contender as of 1 October 2014, i.e. before IEC requested the dual storage concept.
- (ii) Before the Equipment Contract was signed GEOG provided IEC two process flow diagrams, one using atmospheric storage³⁵¹ and the other using pressurized storage;³⁵² and both had a first pass temperature of around -6.25 °C and only very minor differences in the values for feed gas mass flow rate, condensate mass flow rate and LNG throughput capacity.³⁵³ This does not seem to be consistent with the Respondents’ contention that IEC’s request to be also able to use atmospheric storage required a lowering of the first pass temperature.

³⁴⁵ Appendix A to Exhibit RWS-8, p. 8.

³⁴⁶ It is difficult to understand why, on 9 October 2014, GEOG still released, under Transmittal TM-0010, a heat material balance with a first pass temperature of -6.252 °C. By 9 October 2014, this HMB dated 11 September 2014 would have been obsolete. However, in the Arbitral Tribunal’s view, IEC reads too much into TM-0010 when it alleges that, by sending the one-month old process simulation report, GEOG represented to IEC “*that the Amended BOD with atmospheric as well as pressurized storage [...] did not require an update to Annex (B)*” (SoR, ¶110).

³⁴⁷ SoR, ¶102 (the reference, at Footnote 185, to Exhibit R-261 should be to Exhibit R-265).

³⁴⁸ Exhibit C-889.

³⁴⁹ See Exhibit C-1065.

³⁵⁰ Rs’ PHB2, ¶91.

³⁵¹ Exhibit C-43.

³⁵² Exhibit C-44.

³⁵³ SoR, ¶58.

474. But neither is the Arbitral Tribunal able to definitely confirm any of the other competing explanations for the decision to lower the first pass temperature, namely that it was aimed at addressing the alleged uncertainties surrounding the feed gas composition (the other explanation offered by GEOG) or that it was meant to address the issue of the risk of freezing allegedly plaguing the original process design (IEC's explanation).
475. However, as explained above, making final determinations on these issues is not essential to adjudicating IEC's claim for the costs of the HHR. For that task it is sufficient that the Arbitral Tribunal determine whether the process design of the Trains, as built, is defective, and whether the costs of the HHR are damages incurred as a result of GEOG's failure or inability to remedy such defect.

ii. Whether the process design of the Trains, as built, was defective

476. In Clause 17.1 of the Equipment Contract, GEOG warranted *"that the Plants and/or Parts shall be free from Defects in material, workmanship and title and in accordance with any mutually agreed specifications including those set forth in Appendix A."*
477. IEC explains, with reference to Mr Lumley's expert report, that *"with the contract feed gas and a first pass outlet temperature of -62.35 °C, each Train would produce 680.6 TPD of LNG and 85.3 TPD of unstabilized condensate" which "is substantially below the contractually guaranteed 765.1 TPD of LNG and substantially above the 8.562 TPD of condensate."*³⁵⁴
478. Similarly, IEC argues that *"GE guaranteed that its liquefaction trains — as designed and sold — would produce 765.1 TPD of LNG with the contractual feed gas, GE knew that those trains could not achieve that result without additional, expensive fractionation columns."*³⁵⁵
479. These allegations rely on Mr Lumley's expert report which explains:
- "The corresponding decrease in LNG production is similarly dramatic. Under the same T-128 parameters (i.e. cold box reconfigured for colder first pass, as per the actual configuration) and using the Contract feed gas, LNG production output is reduced from 765.1 TPD to approximately 680.6 TPD -- a decrease of 11%. (See Appendix 5, HMB results for pressure storage, T-128 parameters and Contract case feed gas spec)."*³⁵⁶
480. IEC and Mr Lumley refer to output being only 680.6 TPD. TPD –tons per day– is a unit of Throughput Capacity. It expresses how much LNG can be produced as a function of *time*.

³⁵⁴ SoC, ¶178.

³⁵⁵ SoC, ¶180.

³⁵⁶ Exhibit CER-3, ¶6.2.14.

481. However, IEC's complaint does not refer to the Trains' throughput *capacity* but to the Trains' *efficiency*, in terms of amount of LNG produced per amount of feed gas used.

482. Mr Pirijns explains this as follows:

"Regarding the LNG production, the output figures reflected at the storage tank on T-128 show no ostensible decrease in LNG production as compared to the Contract case. [...]"

Further scrutiny revealed that what GE had done was to adjust the quantity of daily feed gas supply (increasing it by 3.15 MMSCFD per Train) in order to generate roughly the same LNG production as was reflected in the Contract case. [...] This then enables a comparison with the daily feed gas in T-010 and reveals GE's surreptitious increase in feed gas supply (of 3.15 MMSCFD) to hide the loss in production its flawed process had created (39.43 – 36.28 = 3.15 MMSCFD GE added to the daily feed gas input)." ³⁵⁷

483. In the Statement of Claim, IEC confirms that when it refers to "*GE breach[ing] the Equipment Contract by Failing to Deliver Plants capable of producing 0.25 MTPA of LNG*"³⁵⁸ it in fact means the breach of the expectation that the Trains "*would each produce 0.25 MTPA, the equivalent of 765.1 TPD [...] from 36.28 MMSCFD (million standard cubic feet per day) of feed gas.*"³⁵⁹

484. Similarly, IEC further explains:

"Annex B [to Appendix A], at first glance, is a complicated diagram. The Plant Summary table to the left of the page explains that, for each Plant, Claimants will need to provide 36.28 MMSCFD (million standard cubic feet per day) of feed gas in order to generate 765.1 TPD (tons per day) of LNG and 8.562 TPD of unstabilized C3+ condensate. [...] The diagram filling most of Annex B is a high-level summary of how one Plant will process that 36.28 MMSCFD of natural gas into 765.1 TPD of LNG." ³⁶⁰

485. And, in the Claimants' First Post-Hearing Brief, IEC explains again:

"[...] Claimants purchased two Trains that must produce 765.1 TPD of LNG when operating as described in Annex B. Annex B specifies not only the TPD of LNG, but also, inter alia, the amount of feed gas required to generate that LNG and the waste condensate that will be a byproduct." ³⁶¹

³⁵⁷ Exhibit CWS-3, ¶¶16.49-16.50.

³⁵⁸ SoC, Heading 4. before ¶324.

³⁵⁹ SoC, ¶324.

³⁶⁰ SoC, ¶92.

³⁶¹ Cs' PHB1, ¶49.

486. And it concludes that “[t]he Trains are not capable of producing the contractually specified 765 TPD of LNG **without substantially increasing the amount of feed gas and power required, and producing exorbitant amounts of waste condensate.**”³⁶²

487. Thus, when IEC and Mr Lumley state that the Trains are only able to produce 680.6 tons per day “with the contractual feed gas,” they mean: with the contractually stipulated 36.28 million standard cubic feet per day of feed gas.

488. IEC’s complaint refers to the ratio of LNG output to feed gas input, i.e. to the efficiency, a parameter from which the time component (“per day”) is eliminated:

$$\text{efficiency} = \frac{680.6 \text{ tons LNG per day}}{36.28 \text{ million standard cubic feet feed gas per day}}$$

489. IEC’s claim thus implies that GEOG has guaranteed not only an LNG Throughput Capacity of 765.1 TPD but also a certain *efficiency* in terms of amount of LNG produced per amount of feed gas used.

490. IEC’s stance is in effect that GEOG has guaranteed not only a *capacity* value but that it has guaranteed the values of every single variable contained in the heat material balance in Annex B of Appendix A, including the values for feed gas and for unstabilized C3+ condensate.

491. However, it is clear to the Arbitral Tribunal that the Guaranteed Performances are the three values specifically mentioned in the Definition of “Guaranteed Performance” in Clause 1 of the Equipment Contract and indicated in Clause 4.1 of Appendix A, and only those three, namely: (i) LNG Throughput Capacity (ii) Power Consumption and (iii) LNG Quality. These three values are also matched by the three amounts of liquidated damages (per unit of deviation from guaranteed value) stipulated in Clause 25.3 of the Equipment Contract. There is no stipulation of liquidated damages for failure to achieve a certain efficiency in terms of amount of LNG produced per amount of feed gas used or for excess production of unstabilized C3+ condensate. Consequently, such a shortfall in efficiency or excess production of unstabilized C3+ condensate has no impact on the threshold of cumulated liquidated damages above which Clause 25.2(ii)(b) deems there to be an unremediated Defect which gives IEC the remedies provided in Clause 17.4.

³⁶² Cs’ PHB1, ¶137, emphasis added; while IEC mentions in passing an increase of the power required (see also, Cs’ PHB2, ¶31), it does not appear to allege nor does it prove that the Trains do not reach the Power Consumption.

492. Thus, the Arbitral Tribunal finds that a shortfall in efficiency (in terms of amount of LNG produced per amount of feed gas used), and an excess production of unstabilized C3+ condensate, compared to that indicated in the heat material balance in Annex B of Appendix A, is not tantamount to either a Defect in material, workmanship or title or to a deviation from any mutually agreed specification including those set forth in Appendix A.

iii. **Whether the costs of the HHR were incurred as a result of GEOG's failure or inability to remedy such defect**

493. The Arbitral Tribunal's conclusion that the process design was not defective leads to the dismissal of IEC's claim for the cost of the HHR.

494. But even if one were to consider that the efficiency shortfall rendered the process design defective, the Arbitral Tribunal finds that the cost of the HHR was not incurred to remedy such defect but for unrelated reasons.

495. In the Statement of Claim, IEC explains that "[o]ne of the ways that Claimants have mitigated that design defect — as recommended by GE — is through the procurement and installation of fractionation columns."³⁶³

496. In the same vein, Mr Pirijns explained that the fractionation columns (i.e., the HHR) were purchased to minimize the efficiency shortfall of the process design:

"GE's design case was a complete failure, and to avoid freezing GE had lowered the temperature on the first pass, never told us that, and never disclosed what that change would do to production.

e) We Have to Buy Fractionation Columns to Correct GE's Process Design Flaws:

*In the wake of this disclosure, the focus shifted to how the situation could be rectified, and the immediate consensus of all concerned was that one or more fractionation columns should be introduced into the process to achieve better gas separations and minimize the loss in production that would be experienced in the form of increased condensate."*³⁶⁴

497. In contrast, Mr Pagliaro explained that "[d]ue to the several changes in the gas composition and the discovery of the presence of heavy hydrocarbons in the feed gas, in early 2017 the need for the HHR system was clarified."³⁶⁵ Similarly, Mr Schleicher explained: "In December 2016, IEC requested GEOG to evaluate a heavy feed gas case and to evaluate a Heavy Hydrocarbon

³⁶³ SoC, ¶398.

³⁶⁴ Exhibit CWS-3, ¶¶16.54-16.55.

³⁶⁵ Exhibit RWS-4, ¶30.

Removal ('HHR') system. [...] IEC requested that GEOG supply a quote to provide a total solution for the HHR system integration into GEOG's existing liquefaction scope of supply."³⁶⁶

498. The minutes of meeting of 9 December 2016 confirm Mr Schleicher's testimony in this regard. They mention a "*Case 1 [...] for rich feed gas (nC6 = 0.641%)*"³⁶⁷ and reflect the following:

"3. IEC confirmed the new feed gas for Plant 1 & 2 and requested the engineering assessment and conceptual design to focus on Case 1 with a Deethanizer.

[...]

5. IEC agreed that a Deethanizer is required and for GE to provide a preliminary process data sheet to start the vender quotation process

6. IEC also requested a de-butanizer so that the HHC can be separated into LPG.

7. GE to provide a conceptual design for the fractionation system and preliminary process datasheets for debutanizer and associated equipment. GE to provide a schedule on 12/12/2016."³⁶⁸

499. The Arbitral Tribunal has not seen a single piece of contemporary evidence (of late 2016 / early 2017) linking the discussions around the HHR to any flaws of the process design. None of the indignation found in Mr Pirijns's narrative about the discovery by IEC of GEOG's machinations³⁶⁹ can be found in the contemporaneous evidence. The Arbitral Tribunal has not seen any exhibit evidencing a complaint by IEC about GEOG's "*purposeful effort to mislead us.*"³⁷⁰ Neither is there a single hint by IEC that GEOG was responsible for the issue that made an HHR necessary. On the contrary, IEC appeared to always accept that it was to itself bear the cost of the HHR:

(i) On 10 January 2017, IEC wrote to GEOG: "*[...] I am hoping to hear back from you on price and schedule for the three options we discussed. During the meeting you indicated you were going out to suppliers based on the PFD information.*"³⁷¹

(ii) On 12 January 2017, IEC wrote to GEOG: "*The key thing I/ Werner have been asking for is Scheduling [sic]/ Cost? Where are you with this.*"³⁷²

³⁶⁶ Exhibit RWS-6, ¶12.8.

³⁶⁷ Exhibit C-636, p. 31.

³⁶⁸ Exhibit C-636, p. 31.

³⁶⁹ Exhibit CWS-3, ¶¶16.43-16.54.

³⁷⁰ Exhibit CWS-3, ¶16.51.

³⁷¹ Exhibit C-268.

³⁷² Exhibit C-269.

- (iii) On 26 January 2017, IEC wrote to GEOG: “*Since our meeting before Christmas IEC have been waiting on some indication of cost and schedule for the scope of work to add the heavy treatment unit as proposed by GE.*”³⁷³
- (iv) Indeed, in early February 2017, GE submitted budgetary proposals for an HHR.³⁷⁴ In his first witness statement, Mr Pirijns commented on the price under the assumption that it will have to be borne by IEC.³⁷⁵
500. Indeed, IEC went ahead and purchased the HHR itself, from CryoSys.
501. Exhibit 1 to the Contract to purchase the HHR from CryoSys states at Clause 2.2:
- “Buyer has communicated to Seller, and Seller is aware of the fact that **the purchase of the Equipment is necessary in order to address issues relating to the quality of the feed gas** to be utilized in the Plants Buyer is presently constructing in Nigeria (and purchased from GE), **which were not originally contemplated at the time Buyer purchased the Plants from GE.** Given this, the provision of the Equipment from Seller is now a critical factor in bringing the Plants online in as timely a fashion as possible.”*³⁷⁶
502. This piece of evidence provides strong additional confirmation for GEOG’s position that the HHR was rendered necessary by changes in the gas composition.
503. Finally, IEC’s expert did not deny that the actual feed gas that is being used by Greenville (i.e. the one referenced to order the HHR from CryoSys)³⁷⁷ renders an HHR indispensable regardless of the cold box configuration.³⁷⁸
504. In light of the evidence the Arbitral Tribunal cannot but conclude that the HHR was not purchased with the aim of remedying any defects of the delivered Trains but to address issues with the changed feed gas.

(2) Whether the procedure for claims under Clause 17.4(i) of the Equipment Contract was followed

(a) IEC’s position

505. With regard to GEOG’s “*defense that Claimants did not comply with Clause 17.4 because they did not identify the defects or negotiate for compensation*” IEC asserted that “*Claimants*

³⁷³ Exhibit C-271.

³⁷⁴ Exhibits C-273 and C-274.

³⁷⁵ Exhibit CWS-3, ¶¶16.73-16.74.

³⁷⁶ Exhibit C-275, emphasis added.

³⁷⁷ See Exhibit C-275, p. 29.

³⁷⁸ Tr. Day 6, 157:2-12.

incessantly complained about the defects, holding meetings (including the Florence meetings) and sending dozens of emails and letters regarding their existence and BHGE's failure to address them."³⁷⁹ IEC points in this regard at Exhibits C-136, C-147 and R-103 and at Mr Pirijns's testimony.³⁸⁰ Moreover, IEC argues that "[i]n similar circumstances, courts have held that a party need not pursue negotiation further."³⁸¹

(b) GEOG's position

506. In the Statement of Defense, GEOG argues that "[u]nder Clause 17.3, in case of defect, 'Seller, at its expense shall correct' it" and that IEC has the right to recover direct damages under Clause 17.4 once GEOG fails or is unable to remedy a Defect within a reasonable time.³⁸²
507. At the Hearing in Milan, GEOG argued that the procedure required by Clause 17.4 before IEC may recover indirect damages was not followed, namely the unsuccessful negotiation of a potential equitable compensation for IEC within a term of 30 days.³⁸³

(c) The Arbitral Tribunal's analysis

508. Clause 17.3 of the Equipment Contract stipulates that in case of a defect appearing within the Warranty Period IEC shall promptly notify GEOG in writing and make the Trains available for correction/inspection. Then GEOG shall, at its option, repair the defect or make available the necessary replacement parts or components.
509. Pursuant to Clause 17.4, if GEOG fails or is unable to remedy a defect within a reasonable time,
- (i) there shall be a thirty-day negotiation period for the parties to agree on an equitable compensation for IEC and, if the parties do not reach such agreement, IEC shall have the right to recover its direct damages incurred as a result of GEOG's failure or inability to remedy the defect;
 - (ii) in the event that due to GEOG's failure or inability to remedy the defect IEC is deprived of a substantial part of the benefit of the Trains, IEC may terminate the Equipment Contract in accordance with Clause 28.2.
510. IEC has not alleged that it has notified GEOG of a defect which would trigger GEOG's obligation to rectify such defect as per Clause 17.3.

³⁷⁹ Cs' PHB1, ¶135.

³⁸⁰ Cs' PHB1, ¶135. Footnote 187.

³⁸¹ Cs' PHB1, ¶135.

³⁸² SoD, ¶165.

³⁸³ Tr. Milan, 143:19-144:4.

511. Indeed, as explained above,³⁸⁴ until the filing of the Statement of Claim, IEC appeared to always accept that it was to itself bear the cost of the HHR. Mr Pirijns described the discovery that “GE’s design case was a complete failure, and to avoid freezing GE had lowered the temperature on the first pass, never told us that, and never disclosed what that change would do to production.”³⁸⁵ And he went on to assert that “[i]n the wake of this disclosure, the focus shifted to how the situation could be rectified, and the immediate consensus of all concerned was that one or more fractionation columns should be introduced into the process to achieve better gas separations and minimize the loss in production that would be experienced in the form of increased condensate.”³⁸⁶ But the Arbitral Tribunal has not been able to identify any written communication –formal or informal– in which IEC complained about such “complete failure” of GEOG’s process design or in which it invited GEOG to “rectify the situation.” There is no communication that could be deemed compliant of the requirement of Clause 17.3.
512. Since no obligation for GEOG to rectify a defect was triggered by a communication by IEC (written or otherwise), the reasonable time period for GEOG to remedy the defect, as per Clause 17.4, never commenced not did it elapse.
513. And, in turn, the thirty-day negotiation period never commenced not did it elapse.
514. Thus, IEC’s right to recover its direct damages incurred as a result of GEOG’s failure or inability to remedy the defect never arose.
515. IEC’s argument that “[i]n similar circumstances, courts have held that a party need not pursue negotiation further”³⁸⁷ goes astray. The cases invoked by IEC involve the principle that “[o]nce it becomes clear that one party will not live up to the contract, the aggrieved party is relieved from the performance of futile acts, such as conditions precedent.”³⁸⁸ In one of the cited decisions, which involved a contractual requirement to negotiate, the Court found:

“Based on the circumstances alleged here, it is reasonably conceivable that the Buyer will succeed in showing that they reasonably concluded from the Sellers’ response letter that any negotiations would have been futile. [...] Thus, one reasonably could question the Sellers’ own belief that negotiations would have been anything other than an exercise in futility. For all of these reasons, I conclude that the apparent lack of

³⁸⁴ ¶499.

³⁸⁵ Exhibit CWS-3, ¶16.54.

³⁸⁶ Exhibit CWS-3, ¶16.55.

³⁸⁷ Cs’ PHB1, ¶135.

³⁸⁸ Exhibits CLA-209, *568; Exhibit CLA-210, *8; see also Exhibit CLA-211, *11.

negotiations between the parties does not provide a basis to dismiss the Buyer's breach of contract claim."³⁸⁹

516. In contrast, here IEC has not even put GEOG on notice of the alleged breach. Hence, IEC cannot show that the preliminary steps provided for in the Equipment Contract as a prerequisite for claiming direct damages would have been futile.

(3) Causality: Whether IEC would have had to purchase an HHR in any event

(a) IEC's position

517. In the Statement of Reply, IEC updated its direct damages figures.³⁹⁰ One of the changes was explained by IEC's witness Mr Helsen as follows:

*"Claimants recognize (as mentioned by Mr. Hillier) that the HHR system is also being used in connection with Train 3. I have therefore allocated two-third of the total costs incurred to Trains 1 and 2, resulting in a revised amount claimed of \$13,697,562.29."*³⁹¹

(b) GEOG's position

518. GEOG's expert Mr Hillier has argued that IEC required an HHR in any event, namely to operate Train 3, and thus *"GEOG is only responsible for the incremental increase in cost for the equipment supply above what is needed for a single train (train 3)."*³⁹²

(c) The Arbitral Tribunal's analysis

519. In the Arbitral Tribunal's view, the fact that the HHR was required to operate Train 3 (which was in fact the first train to enter into operation) negates the causal link between the alleged defect of Trains 1 and 2 and the expenses in connection with the HHR. IEC would have incurred these expenses in any case.
520. The Arbitral Tribunal does not agree with Mr Helsen that it is appropriate to apportion the cost in equal shares among the three trains. Rather, it agrees with Mr Hillier that GEOG can only be responsible for the expenses which IEC incurred but would not have incurred but for GEOG's

³⁸⁹ Exhibit CLA-211, *12.

³⁹⁰ SoR, ¶551.

³⁹¹ Exhibit CWS-10, ¶32. While Mr Van Den Broeke asserted at the Hearing that *"each train has its own HHR"* (Tr. Day 2, 12:13-14), IEC itself has reduced its claim in line with the testimony of its other witness Mr Helsen that the HHR whose costs IEC is claiming for is being used for all three trains. Hence, the Arbitral Tribunal understands that the Mr Van Den Broeke was mistaken in this regard.

³⁹² Exhibit RER-16, ¶4.3.3.5.c.

breach, i.e. the incremental increase in cost for above what is needed for Train 3. However, IEC has not provided this figure.

(4) Quantum: Whether the investment is offset by the return on investment

(a) IEC's position

521. In the Claimants' Second Post-Hearing Brief, IEC acknowledges that the investment incurred for the HHR is to some extent offset by the return on investment and it explains that *"both the significant cost of the HHR system and the incremental higher price of LPG compared to LNG, were incorporated into Mr. Lapuerta's analysis and is visible in his model."*³⁹³
522. IEC also points at Mr Lapuerta having testified *"that the HHR system 'gives about a five percent return on the investment, which is lower than the return that a reasonable investor would demand for a facility like this' "*³⁹⁴ and that *"the project's original projected internal rate of return was over 30%, which is consistent with Mr Helsen's testimony as to the rate of return previously earned by Mr Van den Broeke in his bitumen business and appropriate for an investment in Nigeria."*³⁹⁵ IEC concludes that *"[b]y offering less than a reasonable return, the HHR system reduces the value of the Rumuji investment."*³⁹⁶

(b) GEOG's position

523. In the Respondents' First- Post-Hearing Brief, GEOG posits that *"[i]t is now known that the HHR [...] provides a return on the investment (the investment being its cost) by selling LPG, which Mr. Lapuerta stated was around 5%."*³⁹⁷ In this regard, it argues that *"[g]iven the evidence on the record about the immediate viability of LPG as a product for sale domestically, and the much higher price that customers are willing to pay for it, a 5% return even for one year with three trains operating at full capacity sounds unrealistically low"*³⁹⁸ and that *"this is without considering any savings from the HHR which permitted Greenville to purchase the current feed gas from Total without any cleaning before providing it to the Rumuji Plant."*³⁹⁹

³⁹³ Cs' PHB2, ¶85.

³⁹⁴ Cs' PHB2, ¶86, quoting from Tr. Day 10, 97:11-16.

³⁹⁵ Cs' PHB2, ¶88, with reference to Exhibit C-831, Table A5 and Tr. Day 6, 80:10-14.

³⁹⁶ Cs' PHB2, ¶¶84-89.

³⁹⁷ Rs' PHB1, ¶101.

³⁹⁸ Rs' PHB1, ¶102.

³⁹⁹ Rs' PHB1, ¶102.

524. GEOG argues that “[t]he admission that the HHR conveys additional financial benefits to the Claimants, and the lack of any transparency around the financial valuation, is sufficient reason for the Tribunal to deny any claim for the costs associated with purchasing it.”⁴⁰⁰

525. With regard to IEC’s complaint that it is being forced into the LPG business, GEOG argues as follows:

“If IEC was really not interested in producing LPG, we would wonder why they bought Train 3 in 2016 and why they chose gas supplied by Total, instead of that of the so-called ‘parent plant’.

Needless to say, the Claimants’ argument that the production and commercialization of LPG was not included in IEC’s initial business plan does not make the difference, because any businessman would update its business plan in order to sell a valuable product even though it did not consider to sell it initially. And this is actually what Mr. Van den Broeke confirmed he is doing.”⁴⁰¹

526. In the Respondents’ Second Post-Hearing Brief, GEOG adds that “[a]ccording to the Lapuerta Reports, the production of LPG – and, consequently, the procurement and installation of the HHR – was part of the Claimants’ original business plan, regardless of the cold box configuration.”⁴⁰²

(c) The Arbitral Tribunal’s analysis

527. It is undisputed among the Parties that the HHR provides a positive return on investment, i.e. that the total returns are expected to be greater than any associated costs. Mr Lapuerta has quantified the HHR’s return on investment at about 5%.⁴⁰³

528. This means that any costs are more than offset by the benefits or, in Mr Lapuerta’s words, that “[i]n an accounting sense it [i.e. the price premium on the sale of LPG versus LNG] can recover the depreciation [of the HHR].”⁴⁰⁴ This excludes a finding that the costs of the HHR are direct damages to IEC.

529. Mr Lapuerta has argued that the project’s risk profile is such that the discount rate is 13%. And IEC has asserted that an appropriate rate or return for a project like this and, more generally, for an investment in Nigeria is over 30%.⁴⁰⁵ Mr Lapuerta and IEC find that, in contrast, the HHR

⁴⁰⁰ Rs’ PHB1, ¶104.

⁴⁰¹ Rs’ PHB1, ¶112-113.

⁴⁰² Rs’ PHB2, ¶81; see also Rs’ PHB2, ¶¶82-84.

⁴⁰³ Tr. Day 10, 96:24-25.

⁴⁰⁴ Tr. Day 10, 97:11-12.

⁴⁰⁵ Cs’ PHB2, ¶88.

*"gives about a five percent return on the investment, which is lower than the return that a reasonable investor would demand for a facility like this."*⁴⁰⁶ While this may be so, the alleged shortfall in profit does not amount to direct damages recoverable under Clause 17.4.

530. Even assuming that but for the defect in GEOG's process design IEC would not have chosen to purchase an HHR the conclusion remains the same, namely that the cost of purchasing the HHR is offset by the sales of LPG at a higher price than LNG. But, in actuality, IEC would have had to purchase an HHR in any event for Train 3.⁴⁰⁷ And it also appears that it would also have had to purchase an HHR in order for any of the trains to process the feed gas which IEC is currently using.⁴⁰⁸

c. External Engineering Support for Commissioning

(1) IEC's position

531. In the Statement of Claim, IEC explains that "[a]s GE's engineering problems have continued to mount throughout this project, Claimants have incurred, and continue to incur, significant engineering consulting costs."⁴⁰⁹ It posits that these costs are direct damages and it refers to Mr Helsen's first witness statement wherein these expenses, totaling USD 2,660,037.96, are itemized as of 28 February 2019.⁴¹⁰
532. Mr Helsen's first witness statement breaks down these costs as follows:

"Since BHGE failed to deliver on their contractual promises, IEC/Greenville have retained various consulting engineering consulting experts to resolve the technical issues that are preventing Trains 1 and 2 from operating. The current cost of these consultants is US\$ 2,660,037.96. These consultants include:

a. Lisbon Group. IEC/Greenville retained the Lisbon Group to replace GE in assisting Claimants with the mechanical completion of Trains 1 and 2. The total charges from Lisbon Group to date are US\$ 1,628,307.82.

*b. Softec. IEC/Greenville retained Softec to assist with important testing, including stress testing of pipes, after GE refused to provide critical information concern its own testing results. IEC/Greenville have incurred US\$ 1,031,730.14 in fees for Softec's work."*⁴¹¹

⁴⁰⁶ Tr. Day 10, 97:13-16; Cs' PHB2, ¶86.

⁴⁰⁷ See above, ¶519.

⁴⁰⁸ See above, ¶503.

⁴⁰⁹ SoC, ¶399.

⁴¹⁰ SoC, ¶399.

⁴¹¹ Exhibit CWS-5, ¶55.

533. These damages are updated with the Statement of Reply⁴¹² and Mr Helsens's second witness statement:

We have had to continue retaining both companies since the time of my first witness statement. The current fees we have paid (as of September 30, 2019) are:

• Lisbon Group: \$2,539,589.54

• Softec: \$1,198,864.07

I have included the summary of the invoices received from Lisbon Group and Softec in Appendix K for a total amount of \$3,738,453.61. This appendix (and excel file) contains also the supplier accounts of both companies showing that all invoices received have been paid. The individual invoices of Lisbon and Softec are to be found respectively in Appendix O and Appendix P."⁴¹³

(2) GEOG's position

534. In the Respondents' First Post-Hearing Brief, GEOG acknowledges that "[i]t is undisputed that IEC was assisted in its stress analysis by a company that is also a usual supplier to GEOG, called Softec."⁴¹⁴ But it also points out that the evidence submitted by IEC does not allow to link the costs to the stress analyses performed on Trains 1 and 2:

"Costs: for this matter, like for many others, there is simply no way for GEOG to identify any item of costs in IEC's submissions, witness statements, expert reports, or any other document produced in the course of the arbitration. Attached to Mr. Helsen's Second Witness Statement, under the item 'External Engineering Support for Commissioning', IEC produced some invoices received from Softec, totaling \$1,198,864.07.

The description of this cost item is self-explanatory: neither GEOG nor GE Nigeria were responsible for the commissioning of the Trains. Therefore, these are costs that IEC should have incurred anyhow, regardless of the alleged breaches of the Respondents and/or defects of the Trains. And just as important is the fact that the documents themselves make it impossible to parse out the costs related to the stress analysis performed by Softec on the Trains.

Of the 17 pages of Appendix P to Mr. Helsen's Second Witness Statement there is no invoice exclusively related to the Trains. The invoices relate to two purchase orders

⁴¹² SoR, ¶551.

⁴¹³ Exhibit CWS-10, ¶¶35-36; see also Cs' PHE1, ¶138.

⁴¹⁴ Rs' PHE1, ¶123.

issued by IEC in April and June 2018 – of which we have no copy – with the following descriptions:

i. ‘Technical assessment of process and Lay-out ergonomic arrangement of Train 1-2 (and Train 3 when specifically indicated)’. This has nothing to do with the pipe stress analysis, and there was no attempt by any of IEC’s various experts to link it to the stress analysis.

ii. ‘Process assessment of LNG Plant located in Rumuji – Nigeria – relevant to the entire plant and including also the assessment of the flare system and LNG transportation chain up to final user’. This is utterly confounding since it is expressly related to ‘the entire plant,’ i.e., all of the scope of work outside of GEOG’s contractual supply, and no explanation of which parts may be related to the piping of the Trains (if at all).

iii. Other invoices indicating the presence of Softec’s personnel on site for, as an example, ‘piping stress analysis and supports check Trains 1-2, Train 3, and BOP (hot oil system, boil-off gas and LNG)’. How much of this was for the BOP, which was beyond GEOG’s scope? IEC does not say.”⁴¹⁵

535. And GEOG states, with reference to its letter of 6 December 2019,⁴¹⁶ that “[d]ue to this complete lack of information on costs related to the piping stress analysis, GEOG accepted to cover the costs of \$100,000, based on its best estimate of what the reasonable costs would be.”⁴¹⁷

536. With regard to the Lisbon Group, IEC quotes from the Appendix to the Master Service Agreement between the Lisbon Group and IEC⁴¹⁸ to point out:

“[...] the Lisbon Group was engaged by IEC in October 2017 to provide support for the ‘start-up, operator training and operational support services. For 2 LNG production trains which are nearing mechanical completion’, i.e. activities which have always been outside of the GEOG Entities’ scope of work.

If it is even possible, the 25 invoices attached as Appendix O to Mr. Helsen’s Second Witness Statement are even more confusing (and confused). A few examples,

i. Invoice #1 is related to activities carried out in October 2017 for ‘site visit, plant status, pre-commissioning, commissioning and start-up’;

⁴¹⁵ Rs’ PHB1, ¶¶129-131; see also Rs’ PHB2, ¶92.

⁴¹⁶ Exhibit R-314.

⁴¹⁷ Rs’ PHB1, ¶133.

⁴¹⁸ File “IEC LG Executed MSA 31102017” in Appendix O to Exhibit CWS-10, p. 4.

ii. Invoice #3 deals with 'project integration', 'MR charging design', 'commissioning' and also includes the item 'GE Corrective Action', related to the 'Heavy Hydrocarbon Management', consisting of a 'call with Peter Gutowski';

iii. Invoice #9 deals, again, as all the others, with 'start-up and commissioning support', including 'BOP Automation', and similar items completely outside of the GEOG Entities' scope of work."⁴¹⁹

(3) Arbitral Tribunal's analysis

(a) Lisbon Group

537. IEC alleges that it "retained the Lisbon Group to perform work on the Trains that BHGE failed to do."⁴²⁰ Mr Helsen's description is slightly different: "IEC/Greenville retained the Lisbon Group to replace GE in assisting Claimants with the mechanical completion of Trains 1 and 2."⁴²¹
538. In order for IEC to be able to claim for these costs under Clause 17.4 of the Equipment Contract, it would need to show, among other things, that the Lisbon Group was retained to remedy defects exhibited by the Trains delivered by GEOG.
539. However, the scope of works of the Lisbon Group, as described in the Appendix to the Master Service Agreement between Lisbon and IEC,⁴²² contradicts IEC's contention that the costs it claims from GEOG are for such activities performed by the Lisbon Group within GEOG's scope. The Master Service Agreement lists two activities in the Lisbon Group's scope of works. Activity 1 is described as the Lisbon Group "provid[ing] start-up support, and operator training" and it is stated that Lisbon "will arrive at [sic] during pre-commissioning, and provide operational continuity after operational handover." It is further stated that the work will be performed by "commissioning personal [sic]." Activity 2 is "Follow-on Operational Support," which includes "Remote Monitoring and Troubleshooting," "Safety Assurance," "Reliable, Effective Operation," "Fact-based Operational Improvement" and "Production Benchmarking."
540. It thus appears that the Lisbon Group was only involved in post-Mechanical-Completion activities, namely commissioning/start-up activities and follow-on operational support, which are all outside of GEOG's scope.
541. The Lisbon Group's invoices contain some scattered language that could be perhaps understood to include works in GEOG's scope, e.g. the task description "GE Corrective Action."⁴²³ However,

⁴¹⁹ Rs' PHB1, ¶¶152-153; see also Rs' PHB2, ¶93.

⁴²⁰ Cs' PHB1, ¶138.

⁴²¹ Exhibit CWS-5, ¶55(a).

⁴²² File "IEC LG Executed MSA 31102017" in Appendix O to Exhibit CWS-10, p. 4.

⁴²³ Invoices Nos. 2-8 and 17-21 in Appendix O to Exhibit CWS-10.

the overwhelming majority of activities invoiced for seem to clearly be in IEC's scope. This includes a large number of references to pre-commissioning, commissioning, and start-up⁴²⁴ and also many explicit references to balance of plant activities.⁴²⁵

542. The evidence submitted by IEC is not sufficient to allow the Arbitral Tribunal to allocate the activities invoiced for by the Lisbon Group to works within or without GEOG's scope of remediation works.
543. The only attempt at such allocation made by IEC –or its experts or witnesses– is Mr Lapuerta's, who has attributed one third of this cost item to Train 3: "*Costs related to the Lisbon Group are multiplied by two thirds (2/3), reflecting an allocation fo [sic] 1/3rd to Train 3 (HHR related).*"⁴²⁶ However, the Arbitral Tribunal sees no valid reason to follow such arbitrary allocation.
544. In conclusion, IEC has failed to prove that the Lisbon Group costs it claims are for activities of remedying defects of the Trains delivered by GEOG.

(b) Softec

545. IEC has submitted invoices by Softec⁴²⁷ containing references to works on "*Train 3*," the "*BOP*," the "*Entire Plant*," and the "*LNG transportation chain up to final user*." Neither the explanations provided by Claimants nor the invoices themselves allow ascertaining that the works performed by Softec were to remedy defects in the Trains supplied by GEOG. In particular, IEC has not submitted (as they did with the Lisbon Group) the agreements on which the invoices are based. In fact, the invoices do make references to different specific purchase orders and scopes of work which, however, are not in the arbitration file.
546. IEC's witness, Mr Helsen, has acknowledged at the Hearing that the evidence submitted by IEC does not allow an allocation of the amounts invoiced by Softec to activities on Trains 1 and 2, or on Train 3 or the balance of plant.⁴²⁸
547. Even the invoices that seem to be exclusively referred to "*Piping Stress analysis*," for EUR 90,000 each,⁴²⁹ cannot be granted, since it is not clear whether they refer to the stress testing of Trains 1 and 2 or of Train 3.⁴³⁰

⁴²⁴ Invoices in Appendix O to Exhibit CWS-10, *passim*.

⁴²⁵ E.g., Invoice No. 4 in Appendix O to Exhibit CWS-10, pp. 3, 9.

⁴²⁶ Exhibit C-1176, Sheet A2, Cell C47.

⁴²⁷ In Appendix P to Exhibit CWS-10.

⁴²⁸ Tr. Day 6, 64:14-68:7.

⁴²⁹ Invoices 035/2019 and 054/2019 in Appendix P to Exhibit CWS-10.

⁴³⁰ As explained by Mr Pirijns at the Hearing, Softec also did stress testing for Train 3 (Tr. Day 4, 36:12-17:1); see also Rs' PHB1, ¶125.

548. In conclusion, IEC has failed to prove that the Softec costs it claims are for activities of remedying defects of the Trains delivered by GEOG.
549. However, since GEOG has accepted to cover the “costs related to the piping stress analysis” in an amount of USD 100,000,⁴³¹ this amount is to be granted.

d. Investment for installation of a variable frequency drive

(1) IEC’s position

550. In the Statement of Claim, IEC alleges that from the beginning of the project there was a difference of opinion between GEOG and IEC on the suitable mechanism to start-up the MRC motors. IEC posits that while GEOG identified three possible start-up mechanisms to integrate the power plant with the Trains –an autotransformer, a soft starter, and a VFD– IEC “cautioned GE[OG] that a VFD was required, and that the soft starter solution would not work.”⁴³²
551. IEC submits that following a six-month dispute as to whether GEOG was responsible for providing the start-up mechanism the issue was settled on 8 July 2015 in Change Order Request No. 27. IEC contends that thereby GEOG “agreed to provide the start-up mechanism for the MRCs” and that “GE chose to implement its start-up obligation by using the cheaper of the two potentially viable solutions, the soft starter solution.”⁴³³
552. IEC explains that this issue is linked to the selection of the power plant. While IEC had already made a deposit with Wärtsilä for a power plant, the settlement in Change Order Request No. 27 included the agreement that IEC would purchase the power plant from Jenbacher, a company of the GE group.⁴³⁴
553. IEC states that since mid-2018 GEOG has unsuccessfully attempted to start the MRCs with the soft starters,⁴³⁵ and that at the February 2019 meeting in Rumuji GEOG admitted that the soft starters would not work but VFDs were required instead.⁴³⁶
554. IEC also indicates that VFDs are long lead items that typically require about ten months to acquire⁴³⁷ and that at the time the Statement of Claim was filed GEOG had not yet placed the

⁴³¹ Rs’ PHB1, ¶133; see also Rs’ PHB1, ¶219(d). The Arbitral Tribunal notes that in its letter of 6 December 2019 GEOG conceded “[t]he reasonable cost of additional piping supports for Trains 1 and 2, exclusive of installation costs” (Exhibit R-314). This item is related to, but different from, stress testing. However, the Arbitral Tribunal considers that GEOG’s later statement made in Rs’ PHB1, ¶133, supersedes and takes precedence over that in the 6 December 2019 letter.

⁴³² SoC, ¶206.

⁴³³ SoC, ¶207; see also Cs’ PHB1, ¶69.

⁴³⁴ SoC, ¶¶120, 207; see also SoR, ¶¶139-140.

⁴³⁵ SoC, ¶208; see also SoR, ¶143.

⁴³⁶ SoC, ¶209; see also Cs’ PHB1, ¶72.

⁴³⁷ SoC, ¶210.

order for the VFDs.⁴³⁸ Neither had IEC, but it anticipated the cost to be approximately USD 3 million.⁴³⁹

555. In the Statement of Reply, IEC contends that in Change Order Request No. 27 “GE/BHGE also agreed [...] that if IEC consummated the purchase of GE/BHGE’s Jenbacher power plant, GE/BHGE guaranteed that its starting system would work.”⁴⁴⁰ In this regard, it explains:

“The reason this guarantee was given is because IEC had contracted with Wärtsilä for VFDs to start the MRC motors, and was concerned that if GE/BHGE chose a cheaper solution, it would not work. Mr. Pirijns explained in his first witness statement that ‘we always thought that start-up of the MRC motors would require a VFD, rather than a soft-starter. GE/BHGE repeatedly disagreed, insisting that their favored, cheaper solution would provide the needed integration. [...]’”⁴⁴¹

556. IEC also points out that later, in March 2016, GEOG again assured that the soft starter would work.⁴⁴²

557. At the time the Statement of Reply was filed, IEC had already ordered the VFD. Mr. Helsen quantifies the expenses incurred in this regard and provides an estimation of the installation costs:

In considering our options, we were able to come up with a less expensive solution in which we only needed to purchase a single VFD for both Trains 1 and 2, instead of one for each Train. Based on the contracts that we have already signed as well as estimates of local works needed on site, the total cost is \$1,025,130.89, which is summarized in Appendix Q.

We ordered the VFD from ZF Group Ltd. in China for a cost of \$541,500. We also needed to purchase a Filter Cabinet for a cost of \$62,000. [...]

Other costs that we have already incurred and paid in connection with the order and delivery of the VFD are:

- Ningbo Liyyou Group Co. (containers for transporting the VFD) - \$13,401*
- TÜV Rheinland (inspection services) - \$1,740*
- Yangzhou Shenyang International (transportation services) - \$22,465.35*

⁴³⁸ SoC, ¶211.

⁴³⁹ SoC, ¶400.

⁴⁴⁰ SoR, ¶141; see also SoR, ¶¶143-151.

⁴⁴¹ SoR, ¶142.

⁴⁴² SoR, ¶145, second bullet point, referring to Exhibit C-248; see also Cs’ PHB1, ¶70.

- *Biname (insulator) - \$458.17*
- *Helmacab Belgie (transformator) - \$4,935.28*
- *Pennyred Logistics (Freight fork lift) - \$1,722.09*
- *ZF Group Ltd. (air cooler and interpreter) - \$40,840*

[...]

We have also estimated the cost for installation of the VFD once it arrives at Rumuji, as well as the costs to install a required firefighting system [...] as follows:

- *Firefighting system - \$52,500*
- *E&I Contract including earth work - \$108,038*
- *Civil works contract - \$138,889*
- *Materials, including concrete - \$33,475*
- *Standing unit 3HP - \$3,167⁴⁴³*

(2) GEOG's position

558. In the Statement of Defense, GEOG maintains that the issue with the soft-starter *"is a direct consequence of IEC's failure to properly address the importance of the complete integration of the scopes of supply of the subcontractors (of which GEOG is one of several) with IEC's BOP [...]."*⁴⁴⁴ GEOG explains that once it was determined that start-up equipment would be needed for the MRC motors (because the Rumuji Plant would not be connected to the grid but would run in power island mode, i.e. it would be powered by its own power plant),⁴⁴⁵ *"GEOG provided IEC with quotes for three different options of start-up equipment (a VFD for approximately \$3.9 million, a Soft Starter for around \$1.1 million and an autotransformer for around \$290,000)."*⁴⁴⁶ GEOG explains that while the parties disagreed about whose scope the start-up equipment was,⁴⁴⁷ it *"worked to identify a cheaper alternative solution (the Soft Starter), which was finally accepted by IEC through the change order COR-27 dated July 3, 2015."*⁴⁴⁸

⁴⁴³ Exhibit CWS-10, ¶¶39-42; see also Cs' PHS1, ¶139.

⁴⁴⁴ SoD, ¶64.

⁴⁴⁵ SoD, ¶65.

⁴⁴⁶ SoD, ¶66.

⁴⁴⁷ SoD, ¶¶65-67.

⁴⁴⁸ SoD, ¶67.

559. GEOG submits that “[u]ltimately, in 2018 the Soft Starter solution was found ineffective and it was determined that instead a VFD was required”⁴⁴⁹ and it argues that IEC could have avoided this by coming earlier to the conclusion that a VFD was needed.⁴⁵⁰
560. In Respondents’ First Post-Hearing Brief, GEOG posits that “[t]here is no doubt that the decision to procure a soft-starter as a ‘soft-start solution’ to the Trains was taken by IEC, with no involvement of GEOG, between December 2014 and July 2015.”⁴⁵¹
561. Nonetheless, GEOG explains that “in the interest of shortening the proceedings, GEOG reduced its counterclaim against IEC by \$541,500, the amount of the price that IEC paid to procure the VFD.”⁴⁵² However, it explains that it rejects to bear the costs of installation because “the installation of equipment has never been in the scope of work of either GEOG or GE Nigeria.”⁴⁵³

(3) Arbitral Tribunal’s analysis

(a) Whether GEOG is liable for the effectiveness of the soft starter solution

562. GEOG does not deny but confirms that “in 2018 the Soft Starter solution was found ineffective and it was determined that instead a VFD was required.”⁴⁵⁴
563. Thus, the Arbitral Tribunal only needs to decide whether GEOG is liable for the effectiveness of the soft starter solution.
564. The Arbitral Tribunal does not need to decide whether the start-up mechanism for the MRCs was within the scope of the Equipment Contract, as originally subscribed.⁴⁵⁵ What is clear is that by virtue of Change Order Request No. 27, of 3 July 2015, GEOG undertook to “absorb the cost of MR start-up system (‘soft start’) with J620-Power Gen.”⁴⁵⁶ As acknowledged by GEOG, it did not merely agree to bear the cost but “[t]he supply of the soft-starter was added to GEOG’s scope of work.”⁴⁵⁷
565. Moreover, the said Change Order No. 27 mentioned: “The starter is consideration of a Jenbacher product – if IEC wants non-Jenbacher product GE cannot guarantee such would be compatible

⁴⁴⁹ SoD, ¶68.

⁴⁵⁰ SoD, ¶68.

⁴⁵¹ Rs’ PHB1, ¶115.

⁴⁵² Rs’ PHB1, ¶118; see also Rs’ PHB2, ¶94.

⁴⁵³ Rs’ PHB1, ¶118.

⁴⁵⁴ SoD, ¶68; see also GEOG’s letter of 21 May 2019: “During the recent motor solo run test different constraints have surfaced making the soft starter solution not fitting for purpose anymore” (Exhibit C-162, p. 2).

⁴⁵⁵ See in this regard, SoD, ¶65, Exhibit R-161, pp. 3-4.

⁴⁵⁶ Exhibit C-15, p. 2.

⁴⁵⁷ Rs’ PHB1, ¶116; see also SoR, ¶141: “It is undisputed that, as part of that agreement, GE/BHGE agreed to provide an MR start-up system.”

& may require additional cost beyond the (\$1.2M) – which if necessary would be to IEC's account."⁴⁵⁸ IEC understands this to mean that "GE/BHGE also agreed in that letter agreement that if IEC consummated the purchase of GE/BHGE's Jenbacher power plant, GE/BHGE guaranteed that its starting system would work"⁴⁵⁹ In contrast, GEOG rejects responsibility for the choice of the soft starter and it argues that when it agreed to supply the soft-starter IEC had already decided to opt for this solution,⁴⁶⁰ a decision which it took "with no involvement of GEOG, between December 2014 and July 2015."⁴⁶¹

566. The Arbitral Tribunal fails to understand GEOG's contention that it was no way involved in the selection of a soft-starter, when GEOG itself acknowledged in the Statement of Defense that in October 2014⁴⁶² it "provided IEC with quotes for three different options of start-up equipment (a VFD for approximately \$3.9 million, a Soft Starter for around \$1.1 million and an autotransformer for around \$290,000),"⁴⁶³ and that GEOG itself identified the sort-starter solution which was then accepted in Change Order Request No. 27.⁴⁶⁴
567. And while it does not follow *directly* from the aforequoted passage from Change Order Request No. 27 that GEOG guaranteed the compatibility of the soft-starter (there is only a reference to the compatibility of the *Jenbacher power plant*), the Arbitral Tribunal finds that GEOG's warranty under Clause 17 of the Equipment Contract extends to the soft-starter by virtue of the soft-starter being added to GEOG's scope of delivery. Thus, GEOG is liable for the soft-starter being fit for purpose. This is the more so, considering that GEOG guaranteed the compatibility of the Jenbacher power plant and, thus, it guaranteed the effectiveness of the complete solution consisting of all three elements: power plant, soft-starter and MRC.
568. Having established that GEOG was liable to rectify the issue of the ineffective soft-starter, it is not necessary for the Arbitral Tribunal to ascertain whether the sentence "*The methodology of the startup system will be analyzed further,*" contained in Appendix A, means that GEOG was required to engineer the methodology for starting the MRC Motors, as argued by IEC.⁴⁶⁵
569. Finally, the Arbitral Tribunal notes that after commencement of this arbitration GEOG conceded paying USD 541,000 for the cost of purchasing a VFD.⁴⁶⁶ This does not entail an

⁴⁵⁸ Exhibit C-15, p. 2.

⁴⁵⁹ SoR, ¶141.

⁴⁶⁰ Rs' PHB1, ¶116.

⁴⁶¹ Rs' PHB1, ¶115.

⁴⁶² See Exhibit R-158.

⁴⁶³ SoD, ¶66.

⁴⁶⁴ SoD, ¶67.

⁴⁶⁵ Cs PHB1, ¶68; see in this regard also Claimants' Opening Statement, Tr. Day 1, 79:6-80:11.

⁴⁶⁶ Exhibit R-314; Rs PHB1, ¶118, ¶219(d).

acknowledgement that GEOG was responsible for supplying a VFD to replace the soft-starter, but it is certainly not inconsistent with GEOG being in fact responsible.

(b) Whether the procedure for claims under Clause 17.4(i) of the Equipment Contract was followed

570. The Respondents' revisions to Claimants' draft minutes of the 12-13 February 2019 meeting in Rumuji reflect the following:

*"GEOG asked IEC if they have any preferred/previously identified VFD solution. IEC replies their preference for 1 VFD for each Train because of additional constraints on the power plant. The possibility to use VFD of T1 to start up T2 and vice-versa has to be included. IEC stated that they prefer a one-stop-shop solution for the whole MV EM+VFD system, i.e. the supplier of the VFD to be the same as the EMs."*⁴⁶⁷

571. And they also state: *"GEOG to identify a viable long-term sustainable solution asap."*⁴⁶⁸

572. This suggests that both IEC and GEOG understood by no later than February 2019 that it was incumbent upon GEOG to remedy the ineffectiveness of the soft-starter solution. Since there is no doubt that GEOG was on notice of the defect, the Arbitral Tribunal considers that a further written notification as per Clause 17.3 of the Equipment Contract was superfluous. If one were to consider that an additional express written notification was necessary, then such notification would have been given with IEC's letter of 28 February 2019:

"IEC/Greenville has consulted top-tier European consultants on the subject and there is consensus that only a suitable VFD will enable to start-up and shut-down the Trains.

GEOG asked IEC/Greenville if they have any preferred/previously identified VFD solution. IEC/Greenville replies their preference for 1 VFD for each Train because of additional constraints on the power plant. The possibility to use VFD of T1 to start up T2 and vice-versa has to be included. IEC/Greenville stated that they prefer a onestop-shop solution for the whole MV EM+VFD system, i.e. the supplier of the VFD to be the same as the EMs.

GEOG must identify a viable long-term sustainable solution for this critical problem and inform IEC/Greenville as soon as possible;

*All the costs, including the necessary Load Bank, to achieve the full functionality of the Power Plant shall be at GEOG's cost"*⁴⁶⁹

⁴⁶⁷ Exhibit C-243, p. 6.

⁴⁶⁸ Exhibit C-243, p. 6.

⁴⁶⁹ Exhibit C-186, p. 4.

573. Also in the Statement of Claim IEC expressed its expectation that GEOG rectify this issue: “*The Trains are not operational until GE procures and installs the required VFDs.*”⁴⁷⁰

574. And again on 5 May 2019 IEC inquired: “*Have you ordered the VFD’s, and if not why not? When can we expect them to arrive?*”⁴⁷¹

575. GEOG replied on 21 May 2019:

“GEOG therefore consider the supply of the VFD an addition to our scope. GEOG does not consider the VFD to be within its scope of supply under the Equipment Agreement as our equipment supply CONTRACT.IEC.EQUP.APPDX.A, at 3.1 does not list any such equipment and thus requires either:

a. A Change Order [...]

b. That both GEOG an IEC mutually agree issue [sic] is a disputed change order and it becomes part of the current arbitration process as a dispute to be resolved, subject to IEC supplying GE with the [c]ontractually required Standby Letter of Credit and Parent Company Guarantee, in accordance with IEC obligations under Clauses 7.7 and 7.8 of the Equipment Contract and payment to GEOG of milestones due for Mechanical completion of trains 1 and 2.”⁴⁷²

576. The Arbitral Tribunal considers that with this letter GEOG declined to, and thus failed to, remedy the defect, thereby initiating the thirty-day negotiation period of Clause 17.4(i) of the Equipment Contract.

577. On 22 May 2019, IEC reminded GEOG “*about the other defects where no progress is reported like, amongst others, VFD, [...]*”⁴⁷³ And on 8 July 2019 IEC replied to GEOG’s letter of 21 May 2019 that “*[t]hese requests, in the context of this situation (involving your admitted mis-engineering on all these aspects) were abusive and a transparent effort to deflect your failure to remedy these admitted BHGE defects.*”⁴⁷⁴

578. On 10 July 2019, IEC wrote to GEOG:

“*Given your demobilization, and the utter lack of concrete action by BHGE/GEOG over the course of the last 4 months on the critical issues identified during the February 2019*

⁴⁷⁰ SoC, ¶210; the expectation that GEOG rectifies this issue was also voiced by Mr Pirijns: “*The commissioning of the Trains will now be further delayed for an indefinite period (perhaps another year) while GE locates and puts in place the appropriate equipment to make the interface (including a VFD) to start up the system. VFDs are long lead items, and typically require at least 10 months to procure, ship and install.*” (Exhibit CWS-3, ¶15.22).

⁴⁷¹ Exhibit R-170, p. 4.

⁴⁷² Exhibit R-162, p. 2.

⁴⁷³ Exhibit R-157, p. 1.

⁴⁷⁴ Exhibit R-155, p. 2.

meetings (which you had agreed to promptly rectify), you have left IEC/Greenville with no choice other than to complete Trains 1 and 2 ourselves. We cannot wait any longer for BHGE/GEOG to do what it is obliged to do (and what it has promised to do in February 2019 and on many prior occasions). IEC/Greenville will thus remediate, complete, commission and start-up Trains 1 and 2, with all costs, expenses and losses being added to the claim already presented.

Critical items that remain uncompleted by BHGE/GEOG include:

(i) Ordering and delivery of the VFDs required for startup;

[...]”⁴⁷⁵

579. The Arbitral Tribunal finds that the procedure established in Clause 17.4(i) was followed and, thus, IEC is entitled to recover from GEOG its direct damages resulting from GEOG’s failure or inability to remedy the defect.

(c) Damages

580. As regards the different items claimed by IEC, the Arbitral Tribunal agrees, in general, with IEC’s contention that the direct damages for which GEOG owes compensation are (i) the cost of purchasing the VFDs, (ii) the cost of the structure that is now required to house it, (iii) the cost of installation.⁴⁷⁶
581. The Arbitral Tribunal does not accept GEOG’s objection that “*the installation of equipment has never been in the scope of work of either GEOG or GE Nigeria.*”⁴⁷⁷ GEOG’s obligation is not to supply the VFDs as part of the scope of delivery under the Equipment Contract but to fully remedy a defect (i.e. the ineffective soft starter) under the Warranty, i.e. it includes performance of (or bearing the cost of) any actions necessary to achieve conforming Trains.
582. While IEC’s –or Mr Helsen’s– explanations of the different cost items claimed for could be more detailed, GEOG has not asserted that any of the cost items claimed for by IEC are unnecessary for the transportation and/or installation of the VFDs. On the contrary, GEOG has acknowledged with respect to the complete item “*Investment in VFD (\$1,025,130)*” that “*this is the only item of cost that the Claimants support with documents.*”⁴⁷⁸ GEOG’s objections pertain to whether and to what extent it is obligated to remedy the defect, not to the relevance and quantum of the damages items put forward by IEC.

⁴⁷⁵ Exhibit R-156, pp. 1-2.

⁴⁷⁶ SoR, ¶151.

⁴⁷⁷ Rs’ PHB1, ¶118.

⁴⁷⁸ Rs’ PHB2, ¶94.

583. Consequently, all cost items of investment for installation of VFDs claimed by IEC, totalling USD 1,025,130, are to be granted.

**e. Additional costs of remedying defects: cost of replacement of the
MRC Motor electrical cables**

584. In the Statement of Claim, IEC *“reserve[d] the right to claim for the additional costs that they have and will incur repairing, reconditioning and otherwise remediating the issues with Trains 1 and 2”* and it explained that *“[t]he damage resulting from these issues remains to be determined.”*⁴⁷⁹

585. Mr Helsen’s second witness statement, submitted with the Statement of Reply, explained that *“[t]he work being carried out by Claimants to remediate defects in Trains 1 and 2 is still ongoing and so the amount incurred has not yet been calculated.”*⁴⁸⁰

586. In the Claimants’ First Post Hearing Brief, IEC stated that *“Claimants still face additional costs caused by the defects described during these proceedings,”* but it did not quantify such costs but explained that it *“request[ed] a declaration that BHGE is liable for the cost of remediating all additional defects, subject to quantification.”*⁴⁸¹

587. It is clear that these additional costs of remedying defects include the cost of replacement of the MRC Motor electrical cables, for which GEOG has conceded to pay USD 250,000.⁴⁸² However, despite GEOG’s concession, IEC has not made a specific monetary claim in this regard.

588. However, IEC did request that the Arbitral Tribunal *“grant[...] such other and further relief as the Arbitral Tribunal deems just and appropriate.”*⁴⁸³

589. As a matter of principle, the Arbitral Tribunal is reluctant to award, on the basis of such a generic request, a relief that has not been specifically requested. The reason for this reluctance is that the award might breach the due process rights of the opposing party who did not have a reason, and, thus, an opportunity, to make its case with respect to the specific claim.

590. However, in this case, GEOG has explicitly and specifically conceded the amount of USD 250,000 *“to replace the allegedly undersized cables.”*⁴⁸⁴ Thus, granting such relief would in no way be detrimental to GEOG’s due process rights.

591. Thus, the Arbitral Tribunal grants IEC the amount conceded by GEOG.

⁴⁷⁹ SoC, ¶403.

⁴⁸⁰ Exhibit CWS-10, ¶67.

⁴⁸¹ Cs’ PHB1, ¶140.

⁴⁸² Exhibit R-314; Rs’ PHB1, ¶161, Footnote 200.

⁴⁸³ Cs’ PHB1, ¶235(o).

⁴⁸⁴ Rs’ PHB1, ¶161, Footnote 200.

3. Damages associated with delayed operation (Clause 6.6(ii) / Clause 17.4(i) of the Equipment Contract)

592. In addition to liquidated damages for the delayed delivery, IEC claims damages associated with the delayed operation of the Trains. The Equipment Contract provides for different remedies depending on the period of delay:
- (i) To the extent the damages are caused by a delay in delivery during the period between the date on which liquidated damages started accruing and the Delay Limit Date, Clause 6.5 of the Equipment Contract establishes that “[t]he payment of Liquidated Damages shall be Buyer’s sole and exclusive remedy and Seller’s exclusive liability for any failure to achieve or deliver a Plant (or any portion thereof) by the Delay Limit Date.”
 - (ii) To the extent the damages are caused by a delay in delivery during the period subsequent to the Delay Limit Date, Clause 6.5 of the Equipment Contract establishes that IEC “shall have the right to pursue and exercise the rights and remedies in Clause 6.6.” Clause 6.6 provides that IEC may recover its direct damages (or it may terminate the Agreement, which IEC has not sought to do).
 - (iii) To the extent the damages are caused by GEOG being delayed in remedying defects (“fail[ing] or [being] unable to remedy a Defect within a reasonable time”)⁴⁸⁵ subsequent to delivery, Clause 17.4 provides that IEC may recover its direct damages (or, under certain conditions, terminate the agreement, which IEC has not sought to do).
593. Thus, damages due to a delay in delivery in the period between 1 October 2015 (for Train 1) / 1 January 2016 (for Train 2) and 28 March 2016 fall under Clause 6.6(ii), and damages due to a delay in remedying defects in the period subsequent to 28 March 2016 fall under Clause 17.4(i).
594. Since both clauses provide that IEC may recover its direct damages, it is not necessary to distinguish between the two periods, provided it is established that all elements of both provisions are fulfilled.

⁴⁸⁵ Clause 17.4 of the Equipment Contract.

a. Whether the delayed operation was caused by the delayed delivery and/or the delayed remediation of defects

(1) IEC's position

595. According to IEC, absent GEOG's breaches, operation of the Trains would have commenced in January 2016.⁴⁸⁶ However, at the date of the Hearing (i.e. December 2019) the Trains had not commenced operation.

596. IEC has submitted two delay-analysis expert reports issued by Mr Lancaster who has explained:

"In my opinion, the critical delays to this project can be characterised as follows:

- At the outset, there were delays to the delivery of modules both in terms of the Contract dates and considering COR19,*

- These delivery delays have then been significantly compounded due to the incomplete and poor quality supply of the modules when they were delivered. I have shown within section 4 of this report, the ongoing nature of the general module deliveries that have extended into 2019, this incomplete and poor quality delivery of the modules has undermined the purpose of modularised delivery as I detailed within section 4 of my First Expert Report,*

- In addition to the general incomplete and poor quality delivery issues of the modules, three (3) significant and on-going issues are still causing delay to the project, these being the MV cable replacement, the VFD, the finalisation of the stress analysis and additional pipe support requirements. The potential rectification of the defective Flare piping design is also an ongoing issue with the potential to cause critical delay.*

*In my opinion these are the issues that have caused critical delay to the project. I do not find that it is possible to determine exactly when the critical path would have transferred from the general delays to the trains caused by late, incomplete and poor quality module supply, to the parallel ongoing issues of the MV Cable, VFD, and Pipe Stress analysis, but effectively these three (3) items are only the on-going components of this incomplete and late supply and have been separated only as they are yet to be resolved."*⁴⁸⁷

⁴⁸⁶ According to Mr Helsen (Exhibit CWS-5, ¶35); or in June 2016, according to the more conservative date used by Mr Lapuerta (Exhibit CER-4, ¶¶91-92); see also Exhibit C-683.

⁴⁸⁷ Exhibit CER-7, ¶¶123-124.

597. Thus, after delivery of the modules, which the Arbitral Tribunal determined to have occurred on 28 March 2016, Mr Lancaster identifies four critical delay events on the critical path to achieving operation of the Trains:⁴⁸⁸
- (i) The incomplete and piecemeal delivery of the modules.⁴⁸⁹
 - (ii) The need to replace the soft-starter with a VFD to power the MRC motors.⁴⁹⁰
 - (iii) The defective pipe supports due to stress issues.⁴⁹¹
 - (iv) The undersized MRC motor cables.⁴⁹²
598. IEC's allegations regarding the need to replace the soft starter with a VFD have been summarized above.⁴⁹³
599. With respect to the incomplete and piecemeal delivery of the modules, IEC argues in the Statement of Claim that after the late delivery of the Trains the project *"has been stymied by ongoing discoveries of missing equipment, defective engineering, defective fabrication of the modules and obstructive behavior by GE."*⁴⁹⁴ It alleges that it developed its scope of the project as timely as GEOG's performance allowed⁴⁹⁵ and that its contractors timely installed the modules once they arrived.⁴⁹⁶ However, it complains that *"[l]iterally thousands of parts — including hundreds of valves; hundreds of instruments; many hundreds of nuts and bolts, pipe supports and U-bolts; electrical cables; cable tray materials; heat tracing; insulation and more — were missing from what was supposed to be a 'fully-modularized' train."*⁴⁹⁷ And it contends that *"the missing (and changing) parts for Train 1 have caused interminable further delay."*⁴⁹⁸
600. Concerning the MRC motor cables, IEC alleges the following:
- "Claimants have been alerting GE to the risk that it had under-engineered the electrical cables throughout the Trains. GE routinely rebuffed these concerns."*

⁴⁸⁸ Exhibit CER-1, §7.9.2.

⁴⁸⁹ Exhibit CER-1, §7.9.1.1.

⁴⁹⁰ Exhibit CER-1, §7.9.1.3.

⁴⁹¹ Exhibit CER-1, ¶754, fifth bullet point.

⁴⁹² Exhibit CER-1, §7.9.1.2.

⁴⁹³ §X.B.2.d(1).

⁴⁹⁴ SoC, ¶160.

⁴⁹⁵ SoC, ¶¶116-129.

⁴⁹⁶ SoC, ¶¶149-156.

⁴⁹⁷ SoC, ¶134.

⁴⁹⁸ SoC, ¶138.

In August 2018, during GE's failed efforts to start up the motor to the critical mixed refrigerant compressors ('MRCs'), the concern was realized when the cables overheated and a fuse holder in the cable box melted."⁴⁹⁹

601. Further, IEC alleges that GEOG admitted during the February 2019 meeting in Rumuji that the MRC motor cables were undersized⁵⁰⁰ but subsequently failed to replace those cables.
602. IEC posits that until the undersized cables are replaced the Trains cannot be operational,⁵⁰¹ as the undersized cables pose a major safety hazard.⁵⁰² In this regard, it explains:

*"The use of undersized cables is a major safety hazard. As the Exponent Report explains, 'Undersized cables can pose a serious safety risk, as they can overheat, melt, and cause fire.' In the context of a natural gas and LNG facility, electrical and fire hazards pose explosion risks and are especially unacceptable."*⁵⁰³

603. With regard to the pipe supports, IEC alleges that when GEOG claimed Mechanical Completion on Train 1 in mid-2018, which meant that operations with gas would soon begin, IEC had doubts about the safety of the piping systems and thus requested copies of the stress analyses performed by GEOG during the engineering of the Trains.⁵⁰⁴
604. It further submits that GEOG did not respond and thus IEC retained Softec to investigate the critical piping systems. IEC states that Softec's preliminary report identified numerous areas of overstressed piping and under-supported structural members on critical lines.⁵⁰⁵
605. IEC alleges that in December 2018 GEOG released a summary evaluation that it had just completed and in which it "admitted that over thirty '*modifications on the pipe supports have to be performed and implemented before the full operation of this plant,*' including several instances in which 'major steel would need to be added to add a new support.' "⁵⁰⁶
606. IEC points out that GEOG still did not provide any stress analysis from when it engineered the Trains.⁵⁰⁷

⁴⁹⁹ SoC, ¶¶191-192.

⁵⁰⁰ SoC, ¶194.

⁵⁰¹ SoC, ¶195.

⁵⁰² SoC, ¶193.

⁵⁰³ SoC, ¶193.

⁵⁰⁴ SoC, ¶199.

⁵⁰⁵ SoC, ¶200.

⁵⁰⁶ SoC, ¶201, quoting from Exhibit C-242.

⁵⁰⁷ SoC, ¶202.

607. It further posits that during the February 2019 meeting in Rumuji, GEOG confirmed that 37 piping systems on each Train were improperly stressed and required remediation by GEOG before the Trains could be operational.⁵⁰⁸

608. In this regard, IEC explains:

*“Excessive stress on piping in a process plant can be catastrophic. As the Exponent Report explains, ‘Failure to appropriately support heavy runs of piping that contain flanged connections will impose undue bending moments on the connections and produce nonuniform gasket loading, which can result in gasket failure and leakage of process fluids.... Leakage of [the process fluids in an LNG plant] could result in an explosion and/or fire with potentially catastrophic consequences to workers and equipment.’ ”*⁵⁰⁹

609. In the Statement of Reply, IEC addresses in some detail the opinion by GEOG’s expert, Mr Middleton, that the cables were properly sized.⁵¹⁰ Likewise, it addresses the opinion by GEOG’s expert, Mr Linwood, on the piping stress issue.⁵¹¹

610. In the Claimants’ First Post-Hearing Brief, IEC challenges GEOG’s argument that IEC was concurrently delayed with its scope of works:

*“Dr. Lancaster explained that as BHGE fell behind, Claimants reasonably began pacing their work and using the float created by BHGE’s delays to mitigate losses. For example, because feed gas contracts include onerous Take-or-Pay obligations, Claimants intentionally delayed committing to a feed gas contract until BHGE claimed to be ready for the Trains to receive gas. [...]”*⁵¹²

611. In the Claimant’s Second Post-Hearing Brief, IEC denies GEOG’s allegation that IEC deliberately delayed project execution, and it alleges in this regard, among others:

*“[...] Claimants invested over \$500 million to get the plant running and pay more each day to run it. In mid-2017, because BHGE said it would be ready, Claimants committed to a take-or-pay gas contract to receive gas starting in 2018 (resulting in the recent invoices from Total for nearly \$60 million). And they have been paying operating expenses for years. There are no savings to Claimants from dragging their feet, only costs and massively lower cash flows.”*⁵¹³

⁵⁰⁸ SoC, ¶¶203-204.

⁵⁰⁹ SoC, ¶198, quoting from Exhibit CER-2, p. 19.

⁵¹⁰ SoR, ¶¶198-210; see also Cs’ PHB1 ¶¶77-79.

⁵¹¹ SoR, ¶¶112-137; see also Cs’ PHB1 ¶¶58-66.

⁵¹² Cs’ PHB1, ¶34.

⁵¹³ Cs’ PHB2, ¶8; see also ¶¶9, 46-56.

(2) GEOG's position

612. In the Statement of Counterclaim, GEOG alleges that when the modules were delivered, IEC faced issues and delays regarding the works that were in its scope, i.e. the foundations for the Trains, the installation of the Trains and the construction of the balance of plant.⁵¹⁴
613. GEOG acknowledges that *"some non-conformities in the Trains were discovered that required replacement of certain cables and valves, as well as the bellows"* and that *"[t]echnically these issues caused a slippage to the Trains' completion schedule."*⁵¹⁵ But it argues that *"due to IEC's BOP scope of work still being open, which was in the critical path, the replacement activities did not result in an actual delay."*⁵¹⁶
614. Moreover, GEOG submits that IEC cannibalized the Trains, i.e., that it IEC removed parts from the Trains 1 and 2 to use them in Train 3.⁵¹⁷
615. In the Statement of Defense GEOG expands on its argument that IEC was concurrently delayed and refers to the findings in Mr Blinkhorn's expert report.⁵¹⁸
616. With regard to the MRC motor cable issue, GEOG puts forward that *"most of the power cables were correctly sized, but incorrectly installed by IEC, and those that were too small have already been replaced by GEOG."*⁵¹⁹
617. Concerning the piping supports, GEOG contends that *"GEOG's pipe support design changes were limited to 38 out of approximately 700 lines and 'a corrective design for the 37 defective pipe lines could have been implemented quickly' had IEC agreed to a pipe support modification review meeting with GEOG."*⁵²⁰
618. In the Respondents' First Post-Hearing Brief, GEOG alleges that the MRC motor cable issue did not prevent IEC from completing the Trains long time ago and that *"IEC's electrical expert Mr. Wright, also testified that [...] IEC could always have operated Trains 1 and 2 without any risk of overheating simply by operating at less than full capacity, as they are now doing with Train 3."*⁵²¹
619. With respect to the piping support issue, GEOG alleges, among others, that once the issue was identified, it could have been solved rather swiftly but IEC prevented GEOG from implementing the required modifications:

⁵¹⁴ SoCC, ¶¶87-96, 103-107.

⁵¹⁵ SoCC, ¶122.

⁵¹⁶ SoCC, ¶122.

⁵¹⁷ SoCC, ¶¶157-159.

⁵¹⁸ SoD, ¶208; Exhibit RER-14; see also Rs' PHB1, ¶86.

⁵¹⁹ SoD, ¶63(i).

⁵²⁰ SoD, ¶63(ii), quoting from Exhibit RER-14.

⁵²¹ Rs' PHB1, ¶7.

"[...] It is known that Softec started its analysis in the summer of 2018 and completed it in the course of that year. Finally, it is known that the implementation of the remedial actions – both those identified by GEOG along with those identified by Softec – would require 'around three months' for the procurement of the materials – that are already available at the Rumuji Plant – and a period between two to six weeks for installation.

And it is known that, starting from December 2018, when this arbitration was already pending, IEC prevented GEOG from implementing any modifications to the pipes. Once again, the evidence regarding the progress of IEC's remedial actions shows that it appears timed so that the Trains will not be in operation before the anticipated end of this arbitration."⁵²²

620. GEOG posits that IEC was in fact not interested in starting up the entire Rumuji Plant because there was not sufficient demand for its LNG product⁵²³ and, in particular, because it had failed to secure the Kaduna power plant as a customer.⁵²⁴

(3) The Arbitral Tribunal's analysis

621. The Parties' delay experts invoke various delay events with a potential impact on the critical path towards operation of the Trains.
622. The first group of alleged events potentially caused a delayed delivery of the Trains:
- (i) Gas composition changes (IEC).
 - (ii) Late delivery of the ICP (IEC/GEOG).
623. The second group of alleged potential delay events are general delays to installation, commissioning and start-up of the Trains:
- (i) Incomplete and piecemeal delivery of the modules (GEOG).
 - (ii) Concurrent delays in IEC's scope of work (IEC).
 - (iii) Cannibalization of the Trains (IEC).
 - (iv) Bolt changes (IEC/GEOG).
624. The third group of alleged potential delay events are issues with specific equipment affecting the operability of the Trains:
- (i) Soft starter / VFD to power the MRC motors (IEC/GEOG).

⁵²² Rs' PHB1, ¶¶126-127.

⁵²³ Rs' PHB1, ¶¶7-13.

⁵²⁴ Rs' PHB1, ¶¶14-18, 109.

- (ii) Pipe supports and stress analysis (IEC/GEOG).
 - (iii) MRC motor cables (GEOG).
 - (iv) HHR (IEC).
 - (v) Flare issues (IEC/GEOG).
625. The fourth group of alleged potential delay events are issues beyond the Trains themselves, i.e. the balance of plant (IEC).
626. The Arbitral Tribunal now analyses whether each of the above delay events in fact occurred, whose responsibility they were and what impact they had on the critical path towards operation of Trains 1 and 2.

(a) Events that could cause a delayed delivery of the Trains

i. Gas composition changes

627. As explained above,⁵²⁵ GEOG's claim for an extension of the Delivery Date was untimely and failed to meet the formal requirements of Clauses 6.3 and 6.2 of the Equipment Contract. Thus, GEOG is barred from invoking the alleged gas composition changes as a justification for the delayed manufacturing and delivery of the Trains.

ii. Late delivery of the ICP

628. The Arbitral Tribunal has determined that the ICP was within GEOG's scope of supply.⁵²⁶ Thus, GEOG may not invoke any delays in supply of the ICP as an excuse for the delayed delivery or operation of the Trains.

(b) General delays to installation, commissioning and start-up of the Trains

i. Incomplete and piecemeal delivery of the modules

629. Since Mr Lancaster interprets the Equipment Contract in such manner that he finds that the Trains were never delivered,⁵²⁷ his analysis does not distinguish between the period before delivery of the last modules on 28 March 2016 and the period thereafter.⁵²⁸ However, his expert

⁵²⁵ §X.B.1.c(3).

⁵²⁶ §X.B.1.d(3).

⁵²⁷ See, e.g. Exhibit CER-7, ¶126.

⁵²⁸ See in this regard, Tr. Day 8, 114:5-15: "Q Okay. But do you see a distinction between a warranty claim and a late delivery claim? A I mean, obviously they are different in nature because one would mean the part hasn't come and the other one means the part has come but it's defective. But in terms of delay, it's got basically the same effect because you've still got a plant effectively without a functioning component. So I don't differentiate in terms of delay. If you've got a contractual difference, I think that's for somebody else."

opinions on the incomplete and piecemeal delivery of the modules and the impact thereof on the critical path towards operation of the Trains are relevant, regardless of whether and when the Trains are considered delivered under the Equipment Contract.

630. It is clear that delivery of the Trains was delayed until 28 March 2016,⁵²⁹ and that this delay is GEOG's responsibility.⁵³⁰
631. It is also clear that after delivery of the modules there has been a steady flow of additional shipments. This was acknowledged by GEOG's expert, Mr Hillier, who in his expert report listed shipments during the period between 28 March 2016 (shipment H11) and 8 November 2016 (shipment H18).⁵³¹ But Mr Hillier also acknowledged that there were shipments beyond that point,⁵³² although he points at Mr Pagliaro's testimony that "[s]ince the beginning of [his] involvement in the project, the deliveries were generally minor in nature and / or related to replacement items."⁵³³
632. IEC's expert, Mr Lancaster, has identified shipments reaching into February 2019⁵³⁴ and he has explained in this regard,

"The shipping documents clearly identify that the shipments have been continual and ongoing from October 2015 through to January 2019, with items still outstanding as of the date of this report. A delay to full shipment of Train 1 of some forty-three (43) months (June 2015 to January 2019)

*I believe this is indicative of design and quality issues in addition to simple late deliveries, requiring replacement and additional components to be shipped."*⁵³⁵

633. GEOG acknowledged that "[d]uring this period [from the equipment delivery to November 2016], GEOG had also identified several issues in its own equipment that had to be rectified at site."⁵³⁶ Mr Pagliaro confirmed that after his involvement in the project in October 2016 "[m]any minor parts were shipped to rectify warranty issues."⁵³⁷
634. Thus, the Arbitral Tribunal finds that not only was the delivery of the Trains delayed until 28 March 2016 but during almost three years after delivery of the last modules GEOG was engaged in rectification tasks which required the shipment of minor items or replacement items.

⁵²⁹ See above, ¶436.

⁵³⁰ See above, ¶433.

⁵³¹ Exhibit RER-16, ¶8.3.4.3.e.

⁵³² Exhibit RER-16, ¶8.3.4.3.

⁵³³ Exhibit RWS-7, ¶32.

⁵³⁴ Exhibit CER-1, ¶¶416-423; Exhibit CER-7, ¶¶467-476.

⁵³⁵ Exhibit CER-1, ¶¶447-448.

⁵³⁶ SoCC, ¶97.

⁵³⁷ Exhibit RWS-7, ¶35.

ii. Concurrent delays in IEC's scope of work

635. With regard to the "Site Works Post Delivery Date," Mr Blinkhorn states the opinion *"that at a minimum concurrent delay existed through the currency of the Project with delay events that may be considered to be the responsibility of both Parties."*⁵³⁸

636. And he objects to Mr Lancaster's opinion that the incomplete and piecemeal delivery of the modules was the factor driving the delayed installation, commissioning and start-up of Trains 1 and 2 for failing to take account of such concurrent delay:

"He does not appear to account for deficiencies by IEC that would at a minimum contribute to the delay. For example IEC deficiencies and other reasons for delay would include:

(a) Damage to modules / equipment in shipping;

(b) Loss of materials due to deficient storage, including theft for example;

(c) Damage to materials caused by, for example, improper storage, lack of maintenance;

(d) Poor performance by IEC's installation contractor;

(e) Changes in scope; and

*(f) Site not ready to accept material."*⁵³⁹

637. However, the only analysis performed by Mr Blinkhorn with regard to such "IEC deficiencies" concerns whether the foundations, on which the modules were to be installed on site, were delayed.⁵⁴⁰

638. Moreover, Mr Blinkhorn mentions that "[a] further outstanding and critical issue relates to the 'complete plant flare network design and verification and IEC's plant control system appear to be still unsolved'"⁵⁴¹

iii. Cannibalization of Train 2

639. With regard to the cannibalization of the Trains, IEC explained in its letter of 9 April 2019:

"i) In fact, as you have been told and know, nothing was removed from Train 1, at all.

ii) 43 minor 'commodity-type' items were shifted from Train 2 to Train 3. Those items, listed on the attached schedule, have all been re-acquired by IEC/Greenville. Most have been reinstalled on Train 2, and the remainder will be in the coming days.

⁵³⁸ Exhibit RER-14, ¶4.5.12.

⁵³⁹ Exhibit RER-14, ¶5.3.3.1; see also ¶5.2.6.4(iv).

⁵⁴⁰ See below, ¶¶649-655.

⁵⁴¹ Exhibit RER-14, ¶4.4.23.

iii) *In any case, none of these create an impact on the completion, pre-commissioning or commissioning of the Trains, particularly Train 2.*"⁵⁴²

640. Mr Blinkhorn states that he is *"not aware that the 'cannibalised equipment' has in fact been replaced."*⁵⁴³ However, Mr Lancaster indicates that he was able to confirm during a site walk in June 2019 that all items had in fact been replaced.⁵⁴⁴

iv. Bolt changes

641. It is undisputed that GEOG delivered the galvanized bolts and that it employed local labour with its supervision to replace the black bolts.⁵⁴⁵
642. The Arbitral Tribunal finds that, after some discussion with IEC,⁵⁴⁶ GEOG had agreed to replace the bolts. This is evidenced in an email from IEC to GEOG summarizing the points discussed two days earlier wherein it is stated:

"Following IEC's presentation of some examples of the unsatisfactory performance by GE (supply and technical support), which have already led to considerable delays, GE agreed to:

– replace all rusted studs and bolts (and gaskets)

*[...]"*⁵⁴⁷

v. Critical path impact

643. The Arbitral Tribunal is persuaded by the evidence on the record that the delay in delivery of the modules and the subsequent protracted rectification of defects have slowed down IEC's installation, commissioning and start-up of the Trains and thus, it delayed the Trains' operation as long as the deliveries lasted, i.e. February 2019.
644. Mr Lancaster has explained that *"poor design, poor/incomplete fabrication and poor material and quality management have led to the on-going, incomplete shipments the requirement for replacement parts, and slow construction."*⁵⁴⁸ And he pointed out:

"Late and incomplete modularisation (late and piecemeal shipments) have significantly impacted the project. These issues then mixed with poor quality design and fabrication which has resulted in rework (e.g. bolts, late stress analysis), have all impacted the

⁵⁴² Exhibit R-166, p. 2.

⁵⁴³ Exhibit RER-14, ¶¶5.2.5.6.

⁵⁴⁴ Exhibit CER-7, ¶107.

⁵⁴⁵ Exhibit R-4a, ¶X.2.2.15.

⁵⁴⁶ See Exhibit CER-1, ¶¶347-357.

⁵⁴⁷ Exhibit C-424.

⁵⁴⁸ Exhibit CER-1, ¶754, second bullet point.

project. These types of issues create delay and highly disrupted works on site. The fact that deliveries are still being made into 2019 illustrates the extent of this issue."⁵⁴⁹

645. GEOG acknowledged that *"some non-conformities in the Trains were discovered that required replacement of certain cables and valves, as well as the bellows"* and that *"[t]echnically these issues caused a slippage to the Trains' completion schedule."*⁵⁵⁰
646. The only specific allegation of concurrent delays pertaining to installation, commissioning and start-up of the Trains, concurrent to the incomplete and piecemeal delivery of the modules, is that the foundations on which the Trains were to be installed on site were delayed.
647. Except for this issue, which is examined below,⁵⁵¹ none of the above-listed issues that could potentially impact the critical path are substantiated in any detail by Mr Blinkhorn. Neither does he provide an assessment of the specific impact such issues might have had on the critical path. Likewise, Mr Blinkhorn does not provide any information on the time impact of the alleged *"outstanding and critical issue relat[ing] to the 'complete plant flare network design and verification and IEC's plant control system'"*⁵⁵²
648. Mr Lancaster, when asked at the Hearing whether the performance of poor quality work that can affect how the modules are installed would cause a delay later on in the project, replied: *"it's one thing writing bullet points on a letter, but what exactly are we talking about and how much time has it cost? I can't analyze bullet points."*⁵⁵³ The Arbitral Tribunal faces the same difficulty in evaluating most of the supposed concurrent delays to installation, commissioning and start-up of the Trains alleged by GEOG.
649. As for the foundations, Mr Blinkhorn performed an analysis⁵⁵⁴ and concluded,
- (i) that *"[a]ll module foundations were cast and cured later than the original Delivery Date,"*⁵⁵⁵ and
 - (ii) that the foundations for four modules of Train 2 were cured between 7 and 48 days after shipping of the respective module, *"and therefore installation / placing on foundations would have been impacted."*⁵⁵⁶

⁵⁴⁹ Exhibit CER-1, ¶140.

⁵⁵⁰ SoCC, ¶122.

⁵⁵¹ ¶¶649-655.

⁵⁵² Exhibit RER-14, ¶4.4.23.

⁵⁵³ Tr. Day 8, 95:25-96:11.

⁵⁵⁴ Exhibit RER-14, Appendix D.

⁵⁵⁵ Exhibit RER-14, ¶4.4.36(i).

⁵⁵⁶ Exhibit RER-14, ¶4.4.36(iii).

650. Mr Lancaster disagrees with the first approach and explains that *“the comparison with the original delivery date with the actual foundation date is misleading because Respondents did not ship (and were not prepared to ship) on the original delivery date.”*⁵⁵⁷
651. With regard to the second approach, Mr Lancaster points out that the shipment date which Mr Blinkhorn uses is the date the modules were shipped from Turner’s fabrication yard,⁵⁵⁸ which makes little sense since the relevant moment for comparison is the arrival of the respective module on site.
652. Mr Lancaster performs his own analysis allowing four weeks for the duration of shipping from Port of Houston to Port Harcourt and a further two weeks for customs clearance and transport to site.⁵⁵⁹ And he concludes that none of the four foundations identified as late by Mr Blinkhorn were in fact late.⁵⁶⁰ However, he also makes the comparison exercise for modules which Mr Blinkhorn had not analyzed and he concludes that other, different, four foundations of Train 2 were late by between 4 and 41 days.⁵⁶¹
653. In this regard Mr Lancaster reasons that these are minor delays *“which do not have any impact on the project as the late delivery of modules are still driving the critical path.”*⁵⁶²
654. At the Hearing, Mr Lancaster expanded on the impact of these four delays as follows:
- “I don’t consider these to be critical. The reason for this is that when you receive shipments of modules and equipment, there is a sequence of erection that needs to be undertaken, and you would never expect to receive batches of modules and equipment and have everything on the foundation the same day. So I don’t believe that it was an issue from that perspective. And also the fact that the modules that were being delivered were significantly incomplete, and, therefore, there was work being conducted on these modules for a number of years to come.”*⁵⁶³
655. The Arbitral Tribunal finds Mr Lancaster’s opinion convincing. It thus finds that the issue of the timing of completion of the foundations did not impact the critical path.
656. As regards the cannibalization, the Arbitral Tribunal finds that the issue does not have the weight GEOG attributes to it but it gives credence, in general terms, to IEC’s explanations in the 9 April 2019 letter, even if the schedule attached to the letter might have been incomplete.⁵⁶⁴

⁵⁵⁷ Exhibit CER-7, ¶217.

⁵⁵⁸ Exhibit CER-7, ¶216.

⁵⁵⁹ Exhibit CER-7, ¶218.

⁵⁶⁰ See Exhibit CER-7, p. 48, Figure 3.10.

⁵⁶¹ Exhibit CER-7, ¶221.

⁵⁶² Exhibit CER-7, ¶501(d).

⁵⁶³ Tr. Day 8, 17:25-18:11.

⁵⁶⁴ See Tr. Day 8, 123:11-124:12.

Conversely, it finds Mr Blinkhorn's statement that "[t]his delay event would have prevented IEC from running the plant and has resulted in additional parts supply by GEOG and installation, testing and commissioning work which will take time to complete"⁵⁶⁵ to be speculative and unsubstantiated.

657. With respect to the bolt changes, both delay experts agree that the replacement of the bolts is likely to have impacted the pace of installation. Mr Lancaster explains in this regard:

"[...] replacing a large number of bolts at site has to have a significant time impact on the construction of the plant.

*This issue will in all likelihood have contributed to the delays on the critical path and is interwoven into the issue of incomplete fabrication of the Modules. However from the records I have received to date and in the time available I cannot separate this issue from the extensive carry-over work ('COW') caused by the lack of completeness and delayed shipments of the modules and their component parts."*⁵⁶⁶

658. In turn, Mr Blinkhorn opines:

*"In my opinion, at a minimum this delay event will have caused disruption through the need for additional work in replacing the bolts."*⁵⁶⁷

659. However, neither expert submits a specific assessment of the impact this delay event may have had on the critical path.

660. Mr Lancaster explains:

*"Whilst this issue will have had an impact on the construction of the trains as I noted in my First Expert Report (section 2.5.5.4) it is not possible to separate this from on-going delivery issues. However, relative to the on-going issues with the MV Cabling, VFD and the stress analysis, I do not believe this issue has had significant impact on the critical path of the project."*⁵⁶⁸

661. Mr Blinkhorn states:

" 'Bolt Changes'

Start of Delay Event = N/A

End of Delay Event = N/A

⁵⁶⁵ Exhibit RER-14, ¶¶5.3.2.12.

⁵⁶⁶ Exhibit CER-1, ¶¶370-371.

⁵⁶⁷ Exhibit RER-14, ¶¶5.2.4.5.

⁵⁶⁸ Exhibit CER-7, ¶340.

Responsibility / liability for this delay event is disputed by the Parties.

In my opinion Dr Lancaster has not been able to demonstrate that this delay event caused critical delay to the Plant installation work.

In my opinion, at a minimum this delay event will have caused disruption through the need for additional work in replacing the bolts.”⁵⁶⁹

662. The statement that “*Dr Lancaster has not been able to demonstrate that this delay event caused critical delay to the Plant installation work*” suggests that Mr Blinkhorn is not invoking the bolt replacement issue as a concurrent delay on IEC’s part but, on the contrary, that he denies that this event had any impact on the critical path. But this seems to be contradicted by Mr Blinkhorn next statement that “*at a minimum this delay event will have caused disruption through the need for additional work in replacing the bolts.*” In any event, since neither experts puts forward a specific impact of this delay event on the critical path, the Arbitral Tribunal is not in a position to make a finding that the issue caused any concurrent delay by IEC.
663. While not strictly necessary to make a technical assessment of the impacts of the various delay events on the critical path, the Arbitral Tribunal wishes to address GEOG’s suggestion that IEC deliberately dragged its feet because it had no real interest in starting up the entire Rumuji Plant.⁵⁷⁰ In particular, GEOG alleges that “*as of 2015, IEC no longer had any incentive to finalize, commission and start-up Trains 1 and 2. Without the Kaduna Power Plant as a customer, the Claimants simply did not have enough demand for LNG to operate even one train.*”⁵⁷¹
664. In this regard, the Arbitral Tribunal notes that three actions carried out by IEC/Greenville after 2015 strongly suggest that they were indeed interested in and expecting to start producing and selling LNG in the near term:
665. First, the fact that IEC purchased Train 3 in April 2016 and that in mid-2018 it began to prioritize the installation and start-up of Train 3⁵⁷² is a strong indicator that IEC/Greenville were willing to start producing LNG as soon as possible. Otherwise, the additional investment and efforts would not make sense. Moreover, the fact that they were able to start producing LNG with Train 3 in a relatively short timeframe (albeit at reduced capacity), indicates that the root causes of the delayed installation, commissioning and start-up of Trains 1 and 2 are more likely to be found in GEOG’s scope of supply than in IEC’s sphere.

⁵⁶⁹ Exhibit RER-14, ¶¶5.3.2.6-5.3.2.9.

⁵⁷⁰ Rs’ PHB1, ¶8.

⁵⁷¹ Rs’ PHB1, ¶15.

⁵⁷² SoCC, ¶7.

666. Second, in November 2016 IEC purchased 200 LNG trucks.⁵⁷³ This strongly suggests that at the time IEC/Greenville were willing and expecting to start producing LNG soon.
667. Third, the fact that in September 2017 Greenville entered into a take-or-pay gas supply agreement to receive gas starting in 2018⁵⁷⁴ strongly suggests that IEC/Greenville were willing and expecting to start producing LNG soon.
668. In conclusion, the Arbitral Tribunal finds,
- (i) that the delay in delivery of the modules and the subsequent protracted rectification of defects have slowed down IEC's installation, commissioning and start-up of the Trains and thus, it delayed the Trains' operation as long as the deliveries lasted, i.e. February 2019; and
 - (ii) that GEOG has not met its burden of proof regarding any concurrent delays by IEC pertaining to installation, commissioning and start-up of the Trains.

(c) Issues with specific equipment affecting the operability of the Trains

i. VFD

669. As explained above,⁵⁷⁵ the soft starter was unsuited to start the MRC's supplied by GEOG and needed to be replaced by a VFD; GEOG is liable for this unsuitability.
670. IEC ordered the VFD on 18 June 2019,⁵⁷⁶ and installed it by early 2020.⁵⁷⁷

ii. Pipe supports and stress analysis

671. In its "Piping Stress Evaluation Summary" of 14 December 2018, GEOG acknowledged that *"modifications on the pipe supports have to be performed and implemented before the full operation of this plant"* and it announced that *"BHGE will procure the necessary material for train 1 and train 2 and will implement required modifications as per indicated in the redlined isometric drawings listed in this document."*⁵⁷⁸
672. The Respondents' revisions to Claimants' draft minutes of the 12-13 February 2019 meeting in Rumuji reflect the following:⁵⁷⁹

⁵⁷³ See Exhibit C-1121.

⁵⁷⁴ Exhibit C-312; see Cs' PHB2, ¶8.

⁵⁷⁵ §X.B.2.d(3)(a).

⁵⁷⁶ Exhibit C-1042.

⁵⁷⁷ Claimants' Response to Procedural Order No. 10, of 30 July 2020, p. 2.

⁵⁷⁸ Exhibit C-242, p. 9.

⁵⁷⁹ Exhibit C-243, p. 8.

- (i) *"GEOG confirms that differences were found, and problems came out that had to be mitigated. Findings have been shared with the IEC identifying lines, locations and supports to be modified."*
 - (ii) *"GEOG detected defects that must be modified."*
 - (iii) *"There are several around 37 lines in need of mitigation."*
 - (iv) *"After the GEOG identified modifications will be implemented, the defects will be eliminated. GEOG has already procured and shipped the material needed for the modifications, Make good activities ready to start, currently awaiting IEC approval to proceed."*
673. GEOG asserts that IEC *"prevent[ed] GEOG from completing any make good activity needed to rectify warranty defects associated with the piping supports"*⁵⁸⁰ and that it *"deny[ed] GEOG to perform a 3D laser scanning of the plant at GEOG costs without any meaningful reason."*⁵⁸¹
674. These complaints, based on Mr Pagliaro's Testimony,⁵⁸² seem to refer to:
- (i) IEC's delay in sharing the results of the Softec analysis with GEOG.⁵⁸³
 - (ii) IEC's denial to give permission to GEOG to take pictures or to perform a 3D laser scanning of the Trains.⁵⁸⁴
 - (iii) GEOG having shipped, at the beginning of 2019, the materials needed to rectify the pipe supports,⁵⁸⁵ IEC's denial of permission to complete these activities.⁵⁸⁶
675. However, the Arbitral Tribunal considers IEC's explanations as to why it held back with authorizing GEOG to perform the remediation works to be reasonable. Specifically, Mr Pirijns has explained in this regard:

"It is true that I would not authorize GE/BHGE to perform the remediation described in their December 2018 report until our external consultants at Softec were able to review their work and confirm that it was right. GE/BHGE's proposed structural modifications might have created knock-on effects elsewhere, or might have been wrong. I did not want GE/BHGE removing and replacing insulation, altering structural members and welding in a Train until I was confident that the actions proposed were final. I am glad

⁵⁸⁰ SoD, ¶220(iv).

⁵⁸¹ SoD, ¶220(vi).

⁵⁸² Exhibit RWS-7, ¶23, fourth bullet point.

⁵⁸³ Exhibit RWS-7, ¶¶77, 5, fifth bullet point.

⁵⁸⁴ Exhibit RWS-7, ¶¶80-81, 5, sixth bullet point, with reference to Exhibits R-153 and C-243, item no. 9.

⁵⁸⁵ Exhibit RWS-7, ¶74.

⁵⁸⁶ Exhibit RWS-7, ¶5, seventh bullet point, with reference to minutes of meeting of 9 January 2019, which reflect that GE was waiting for *"the greenlight from the customer to start the modification of process piping support according to stress analysis,"* (Exhibit R-240, p. 5) and to timesheets from the period January-March 2019, showing GE personnel *"On standby, Awaiting greenlight from Greenville to proceed activities"* (Exhibit R-241).

*that I made that decision because during 2019, GE/BHGE substantially changed their stress findings.”*⁵⁸⁷

676. In light of GEOG’s lack of transparency as regards the stress tests it had or had not been performing and of the fact that it was only thanks to IEC’s initiative to retain Softec to check the soundness of the piping supports that the piping deficiencies were unearthed, the Arbitral Tribunal finds Mr Pirijns’s desire for certainty about the finality of the solutions to be implemented to be legitimate and reasonable. Moreover, Mr Pirijns’s misgivings turned out to be justified in hindsight. Subsequent to the “Piping Stress Evaluation Summary” of 14 December 2018,⁵⁸⁸ GEOG prepared two further analyses, in March 2019⁵⁸⁹ and in August 2019,⁵⁹⁰ all three analyses being inconsistent with each other.⁵⁹¹
677. Also Mr Pirijns’s explanations on the 3D laser scanning are plausible, namely that (i) it would have required removal of all the insulation and substantial scaffolding,⁵⁹² (ii) if GEOG had identified the stress deficiencies and the adequate make good actions –as it claimed it did–, it is not clear what benefit another survey could pose.⁵⁹³
678. By early 2020, IEC had remediated the piping stress defects itself.⁵⁹⁴

iii. MRC motor cables

679. During the 12-13 February 2019 meeting in Rumuji, GEOG acknowledged that the “*GEOG selected and supplied cables are not suitable to feed the MR Compressor Motor*” and it was agreed that “*GEOG has to supply suitable cables*” and that “[c]able re-procurement shall be made at GEOG cost.”⁵⁹⁵ The Respondents’ revisions to Claimants’ draft minutes of meeting further reflect that “*GEOG has identified 300sqmm cable size for the application, which IEC agrees*” and that “*GEOG has started the procurement process of the cables and any parts additional to the original design needed for the installation.*”⁵⁹⁶
680. The foregoing was confirmed in IEC’s letter of 28 February 2019:

“Below are the issues discussed in the Plenary Session and relevant take-away:

[...]

⁵⁸⁷ Exhibit CWS-12, ¶4.77.

⁵⁸⁸ Exhibit C-242.

⁵⁸⁹ Exhibits C-950 and C-951.

⁵⁹⁰ Exhibit C-877.

⁵⁹¹ See in this regard Exhibit CER-8, ¶¶6.1.27-6.1.33; see also Exhibit CWS-1, ¶¶4.78-4.79.

⁵⁹² Exhibit CWS-12, ¶4.82.

⁵⁹³ Exhibit CWS-12, ¶4.81.

⁵⁹⁴ Claimants’ Response to Procedural Order No. 10, of 30 July 2020, p. 2.

⁵⁹⁵ Exhibit C-243, pp. 3-4.

⁵⁹⁶ Exhibit C-243, p. 4.

2) *MR Compressor Cable Sizing, Selection and Installation:*

- *As described in previous IEC/Greenville communications to GEOG, the existing cables configuration for several users in Trains 1 and 2 is wrong and inadequate, requesting the replacement of the cables that overheat and may become harmful*
- *For the MR Compressors motors GEOG has to supply suitable cables — GEOG has identified 300sqmm cable size for the application, which IEC agrees*
- *Changes shall be made at GEOG cost and IEC will provide support, if required*⁵⁹⁷

681. Later, after this arbitration had been commenced, GEOG conceded the amount of USD 250,000 for the cost of replacing the MRC Cables.⁵⁹⁸ While this does not entail an acknowledgement that the cables were in fact undersized,⁵⁹⁹ it is certainly not inconsistent with GEOG's earlier acknowledgement in February 2019.
682. Despite all of the foregoing, the Respondents' expert, Mr Middleton, concluded that *"if the cables had been installed in air on trays, as originally specified, separated by one cable diameter and had been protected from exposure to the sun and other heat sources, they were adequately sized to supply power to the MRC motors."*⁶⁰⁰
683. The Arbitral Tribunal is not convinced that the MRC cables were adequately sized. On the contrary, it is persuaded by IEC's expert, Mr Wright, who explained that (i) the cables were installed underground under the supervision of GE Nigeria and that GEOG did not object to this deviation from the original specification,⁶⁰¹ (ii) the separation by one cable diameter proposed by Mr Middleton was not possible with the cable trays specified by GEOG,⁶⁰² and (iii) GEOG did not design or supply any protection from heat exposure.⁶⁰³ Thus, Mr Wright convincingly explained: *"If the cables had been installed in air with Respondent-provided cable trays as Mr. Middleton suggested with the specified ambient temperature, [...the] rating is also below the required MRC motor full load current of 470.3 A."*⁶⁰⁴ Consequently, *"[t]he decision to bury the cables as opposed to running them above ground had no consequence, as they were undersized for both locations."*⁶⁰⁵

⁵⁹⁷ Exhibit C-186, p. 3.

⁵⁹⁸ See above, ¶¶587, 590.

⁵⁹⁹ In fact, GEOG refers to the cables which *"IEC claims were undersized"* (Exhibit R-314).

⁶⁰⁰ Exhibit RER-12, ¶4.2.1.1.

⁶⁰¹ Exhibit CER-8, ¶6.4.9; see Exhibit C-453.

⁶⁰² Exhibit CER-8, ¶6.4.12; Tr. Day 4, 103:19-104:14.

⁶⁰³ Exhibit CER-8, ¶6.4.14.

⁶⁰⁴ Exhibit CER-8, ¶6.4.15.

⁶⁰⁵ Exhibit CER-8, ¶6.4.16.

684. Despite GEOG's commitment at the 12-13 February 2019 meeting in Rumuji, GEOG did not deliver the replacement cables.

685. By early 2020, IEC had purchased and installed the replacement cables itself.⁶⁰⁶

iv. HHR

686. Mr Blinckhorn explains that Mechanical completion of the HHR was achieved on 20 November 2018 and that handover took place on 1 March 2019.⁶⁰⁷

687. Mr Lancaster considers that notwithstanding the dates mentioned by Mr Blinckhorn the "*Ready-for-Start-Up*" status was already achieved on 18 January 2019.⁶⁰⁸ He also indicates that, having reviewed the contemporaneous progress reports, he determined that the HHR for Train 1 was constructed by May 2018 followed by Train 2 in June 2018.⁶⁰⁹

688. As has been determined above,⁶¹⁰ IEC is responsible for the purchase and installation of the HHR.

v. Critical path impact

689. Concerning the VFD issue, it is undisputed that "[t]he MR Compressor motors are fundamental to the operation of the Trains and this issue therefore totally prevents the plant from being placed into operation."⁶¹¹

690. GEOG's complaint that IEC should have discovered the need for a VFD earlier⁶¹² goes astray. Not IEC but GEOG identified the soft-starter solution.⁶¹³ And by virtue of the soft-starter being added to GEOG's scope of delivery, it came to be covered by the Warranty under Clause 17 of the Equipment Contract. Moreover, after Change Order Request No. 27 had been agreed, when IEC voiced doubts about the aptness of the soft-starter, in March 2016, GEOG doubled down on its guarantee by stating "*The soft starter WILL work. We are sure of the power requirements.*"⁶¹⁴

691. Neither does the Arbitral Tribunal see any merit in GEOG's criticism of a supposedly "*late procurement and installation of the VFD*"⁶¹⁵ by IEC. In late 2018 the soft starter solution was

⁶⁰⁶ Claimants' Response to Procedural Order No. 10, of 30 July 2020, p. 2.

⁶⁰⁷ Exhibit RER-14, ¶5.3.2.2.

⁶⁰⁸ Exhibit CER-7, ¶281.

⁶⁰⁹ Exhibit CER-7, ¶¶283, 267-268.

⁶¹⁰ §X.B.2.b(1)(c)iii.

⁶¹¹ Exhibit CER-1, ¶562; see also SoC, ¶210.

⁶¹² SoD, ¶68.

⁶¹³ SoD, ¶67.

⁶¹⁴ Exhibit C-248; see also Exhibit C-879: "*Again, the soft starter equipment was sized correctly and the joint work with GE-Jenbacher (to size and select their equipment) was also performed correctly.*"

⁶¹⁵ Rs' PHB1, ¶120; see also ¶119.

found ineffective and it was determined that instead a VFD was required.⁶¹⁶ Not long thereafter, the issue was discussed in the 12-13 February 2019 meeting in Rumuji.⁶¹⁷ After that, IEC waited for GEOG to “*identify a viable long-term sustainable solution for this critical problem and inform IEC/Greenville as soon as possible.*”⁶¹⁸ Indeed, IEC points out: “*At the February 2019 Rumuji meeting, BHGE promised to deliver a workable starting system, cables, pipe supports and more. In response to Claimants’ repeated requests, BHGE dithered. Ultimately, in mid-2019, Claimants ordered these parts themselves and are now installing them.*”⁶¹⁹ Specifically, after GE Nigeria’s demobilization from site (15 May 2019)⁶²⁰ and once GEOG had informed IEC of its position that it was not responsible for supplying the VFD (21 May 2019),⁶²¹ IEC ordered the VFD itself on 18 June 2019.⁶²² The order was made within a month. The Arbitral Tribunal does not consider IEC’s timing to be deserving of reproach.

692. In addition, IEC observes that “*when BHGE says anything at all about delay, it contends Claimants are at fault for not seizing the reins from BHGE sooner*” and that “[i]n doing so, it wants you to forget BHGE’s threat to cancel the warranties if Claimants installed a single support for an overstressed pipe in 2016.”⁶²³ If IEC showed some reluctance to itself replace GEOG’s performance, in the Arbitral Tribunal’s view such reluctance would be comprehensible and legitimate in light of the risk of blurring responsibilities.
693. The Arbitral Tribunal finds that the pipe support defects are not minor items but they materially affected the operation and safety of the Trains.
694. Indeed, as explained by Mr Caligiuri, “[f]ailure to appropriately support heavy runs of piping that contain flanged connections will impose undue bending moments on the connections and produce nonuniform gasket loading, which can result in gasket failure and leakage of process fluids” which “*could result in an explosion and/or fire with potentially catastrophic consequences to workers and equipment.*”⁶²⁴ In the same vein, Mr Caligiuri’s assessment that “[t]hese nonconformities to ASME B31.3 represent potential life safety hazards,”⁶²⁵ is consistent with GEOG’s statements that the review of the “Piping Stress Evaluation Summary” of 14 December

⁶¹⁶ SoD, ¶¶68; see also GEOG’s letter of 21 May 2019: “*During the recent motor solo run test different constraints have surfaced making the soft starter solution not fitting for purpose anymore*” (Exhibit C-162, p. 2).

⁶¹⁷ Exhibit C-243, p. 8.

⁶¹⁸ Exhibit C-186, p. 4.

⁶¹⁹ Cs’ PHB1, ¶¶29, Footnote 41.

⁶²⁰ See SoD, ¶¶61(i).

⁶²¹ Exhibit R-162, p. 2.

⁶²² Exhibit C-1042.

⁶²³ Cs’ PHB2, ¶¶6.

⁶²⁴ Exhibit CER-2, p. 19.

⁶²⁵ Exhibit CER-8, ¶¶4.1.6.

2018 was “as per ASME B31.3” and that is was “intended to guarantee the safe operation of piping for the design life-span of 20 years.”⁶²⁶

695. Also GEOG’s expert, Mr Linwood, considers that “[w]hile the pipe support design changes were limited to 38 out of approximately 700 lines, the changes were identified by GEOG to be design critical, requiring construction modifications to be completed prior to placing Train 1 into operation.”⁶²⁷ In fact, Mr Linwood specifically acknowledges that Mechanical completion could not be reached in the presence the piping defects listed in the “Piping Stress Evaluation Summary” of 14 December 2018:

*“Had GEOG been aware of these pipe stress design issues at a time prior to the application for Mechanical Completion, I genuinely believe that GEOG’s professionalism and high standards of business ethics would have resulted in IEC being informed of these issues and corrective actions agreed with IEC prior to claiming Train 1 Mechanical Completion.”*⁶²⁸

696. Thus, it is clear to the Arbitral Tribunal that the Trains could not be operated before this issue was solved.
697. With regard to the MRC motor cables, GEOG put forward at the Hearing⁶²⁹ and in the Respondents’ First Post-Hearing Brief that “IEC could always have operated Trains 1 and 2 without any risk of overheating simply by operating at less than full capacity, as they are now doing with Train 3.”⁶³⁰ It might be true that, if the undersized cables had been the only issue affecting the operation of the Trains, IEC could have mitigated some of its alleged damages by operating the Trains at less than full capacity. However, given that the unworkable soft starter and the pipe support defects concurrently prevented any operation of the Trains, the Arbitral Tribunal does not need to further consider this question.
698. Similarly, it is unclear to the Arbitral Tribunal whether the Trains were capable of operating without the HHR (e.g. with a different feed gas or at a lower level of production).⁶³¹ However, this question may likewise remain unanswered given that, even assuming that the HHR was completed in March 2019,⁶³² at this time the VFD and the pipe support issues remained

⁶²⁶ Exhibit C-243, p. 8.

⁶²⁷ Exhibit RER-13, ¶4.4.3.4.

⁶²⁸ Exhibit RER-13, ¶4.4.3.1.

⁶²⁹ Tr. Day 4, 110:11-17.

⁶³⁰ Rs’ PHB1, ¶7.

⁶³¹ See the different positions in this regards in Exhibit CER-14, ¶5.2.2.8, and Exhibit CER-7, ¶65.

⁶³² Mr Lancaster indicates that “the HHR System Train 1 was effectively constructed by May 2018 followed by Train 2 in June 2018” (Exhibit CER-7, ¶64) whereas Mr Blinkhorn posits that the HHR was certified as mechanically complete on 20 November 2018 and that the “handover/transfer certificate of care, custody and control” for the HHR were dated 1 March 2019 (Exhibit RER-14, ¶¶4.4.15-4.4.16; 5.2.2.2-5.2.2.3).

unsolved. Thus, the Arbitral Tribunal agrees with Mr Lancaster that the HHR issue did not have a critical impact on the project.⁶³³

699. In conclusion, with the aforementioned caveat concerning the MRC motor cables, the Arbitral Tribunal mostly concurs with Mr Lancaster's following considerations:

"In addition to the general incomplete and poor quality delivery issues of the modules, three (3) significant and on-going issues are still causing delay to the project, these being the MV cable replacement, the VFD and the finalisation of the stress analysis and additional pipe support requirements.

*[...] do not find that it is possible to determine exactly when the critical path would have transferred from the general delays to the trains caused by late, incomplete and poor quality module supply, to the parallel ongoing issues of the MV Cable, VFD, and Pipe Stress analysis, but effectively these three (3) items are only the on-going components of this incomplete and late supply and have been separated only as they are yet to be resolved."*⁶³⁴

(d) Issues beyond the Trains themselves

700. GEOG alleges that "due to IEC's BOP scope of work still being open, which was in the critical path, the replacement activities [by GEOG] did not result in an actual delay"⁶³⁵ and it points out:

*"GEOG repeatedly communicated to IEC that the delays to the Rumuji Plant were attributable to IEC's own failures and that, in any event, IEC was severely delayed in completing its BOP scope of works, and notably that 'IEC appears to have under estimated its status to completion', while 'BHGE has taken many actions including ramping up of support personnel at site in furtherance of working to the commissioning schedule...it was BHGE's expectation that IEC would also take the same accelerated measures on the IEC scope (BOP)'."*⁶³⁶

701. As evidence for a delayed completion of the balance of plant and its impact on the critical path towards operation of Trans 1 and 2 GEOG offers the expert report by Mr Blinkhorn whose instructions indeed include an assessment of "[t]he impact of IEC's delay in completing its Balance Of Plant ('BOP') on the performance of the GEOG and GEN scope of work."⁶³⁷

702. However, the only analysis to be found in the report in this regard is the following:

⁶³³ Exhibit CER-1, ¶¶297; Exhibit CER-7, ¶¶64.

⁶³⁴ Exhibit CER-7, ¶¶549-550.

⁶³⁵ SoCC, ¶122.

⁶³⁶ SoCC, ¶123; see also ¶132.

⁶³⁷ RER-14, ¶1.4.1(i).

“IEC was responsible for the scheduling and co-ordination of site activities after the delivery of the modules and equipment. I have not seen a ‘Master Schedule’ produced by IEC for the Plant.

In my opinion this will have detracted from IEC’s ability to properly plan and coordinate the installation work for both GEOG provided equipment and the Balance of Plant (‘BOP’) which was IEC’s responsibility. This will, in my opinion, at a minimum have contributed to the delay in installation of both GEOG provided equipment and IEC’s BOP.”⁶³⁸

703. Furthermore, Mr Blinkhorn states that “[t]he ‘Balance of Plant’ (‘BOP’) was not completed by IEC until 01st March 2019 following the handover of the HHR unit.”⁶³⁹ This statement, though, is not accompanied by any details or evidence that could substantiate it.
704. The Arbitral Tribunal cannot make a finding of a concurrent delay based merely on Mr Blinkhorn’s speculative opinion that the absence of a Master Schedule is likely to have contributed to delays in IEC’s balance of plant.

(e) Conclusion on the delay analysis

705. The Arbitral Tribunal concludes that the driving events that caused a delay in the operation of Trains 1 and 2 were,
- (i) first, the delayed delivery of the modules on 28 March 2016;
 - (ii) then, the protracted rectification of defects which slowed down IEC’s installation, commissioning and start-up of the Trains and thus, delayed the Trains’ operation as long as the deliveries lasted, i.e. until February 2019; and
 - (iii) then, the issues requiring replacement of the soft-starter with a VFD and remediation of the piping support issues, both of which prevented operation of Trains 1 and 2 until they were solved in early 2020.
706. All these delay events are GEOG’s responsibility and the Arbitral Tribunal has not made any findings of concurrent delays on IEC’s part.

⁶³⁸ Exhibit RER-14, ¶¶2.3.7-2.3.8; identical language can be found in ¶¶4.5.7-4.5.8; see also SoCC, ¶¶110-111.
⁶³⁹ RER-14, ¶4.4.40(ii).

b. Whether the procedure for claims under Clauses 6.6(i) and 17.4(i) of the Equipment Contract needed to be followed / was followed

(1) IEC's position

707. The Parties disagree about whether the procedure established in Clause 6.6(i) of the Equipment Contract was followed and whether it needed to be followed in order for IEC to claim for direct damages under Clause 6.6(ii).

708. At the Additional Hearing, IEC argued Clause 6.6 of the Equipment Contract stipulates four alternative remedies and that in order for IEC to exercise any of the remedies provided for in (ii), (iii) or (iv), there is no requirement that it first follow the procedure at (i); although IEC contends that it did in fact follow this procedure.⁶⁴⁰

709. In the Claimants' First Post-Hearing Brief, IEC expands on this argument as follows:

*"BHGE has argued Claimants are not entitled to damages under Clause 6.6(ii) because they failed to give notice under Clause 6.6(i). But Clause 6.6 expresses Buyer's 'rights' as plural, separately, 'and/or' rights, making clear that 6.6(i) and 6.6(ii) are separate rights. And the phrase 'and, at its entire discretion' at the conclusion of Clause 6.6 would be meaningless if Claimants could not exercise their discretion to seek relief under subclauses (ii), (iii) and (iv) without also exercising clause (i)."*⁶⁴¹

710. The Parties also disagree about whether the procedure established in Clause 17.4 of the Equipment Contract was followed, i.e. a thirty-day negotiation period following GEOG's failure to remedy a defect within a reasonable time. IEC's position on this question has been described above, in connection with the HHR.⁶⁴²

(2) GEOG's position

711. At the Additional Hearing, GEOG pointed out that the procedure of Clause 6.6(i) of the Equipment Contract was not followed.⁶⁴³

712. And in the Respondents' Second Post-Hearing Brief, it argues that pursuant to Clause 6.6(i) "[i]t is only after that notice and in case 'Seller fails to agree...or to deliver within such agreed period', that the Buyer is 'free to exercise any of its rights', including the recovery of direct damages."⁶⁴⁴

⁶⁴⁰ Tr. Milan, 96:10-17.

⁶⁴¹ Cs' PHB1, ¶97, Footnote 141.

⁶⁴² §X.B.2.b(2)(a).

⁶⁴³ Tr. Milan, 142:22-143:4.

⁶⁴⁴ Rs' PHB2, ¶53.

713. GEOG's position on whether the procedure established in Clause 17.4 of the Equipment Contract was followed has been described above, in connection with the HHR.⁶⁴⁵

(3) The Arbitral Tribunal's analysis

(a) Clause 6.6(i) of the Equipment Contract

714. Clause 6.6 of the Equipment Contract provides as follows:

"If the Delay Limit Date has been reached on a Plant, then in addition to its right to receive Liquidated Damages, for the period of delay prior to that date, Buyer shall have the following rights:

(i) by notice to Seller, to require Seller to agree, within five (5) Working Days of Buyer's demand, to deliver the Plant(s) within the period of time identified by Buyer at discretion. If Seller fails to agree within five (5) Working Days of Buyer's demand, or fails to deliver within such agreed period, Buyer shall be free to exercise any of its rights under (ii) and/or (iii) hereafter; and, at its entire discretion,

(ii) recover from Seller any direct damages Buyer suffers in accordance with the Agreement subsequent to the Delay Limit Date;

(iii) terminate the Agreement in accordance with Clause 28.2; and/or,

(iv) acquire those portions of the Plant that will have already been manufactured by then, subject to paying Seller for any such portions of the Plant that Buyer acquires at a reasonably commercial valuation per the Contract Value."

715. The Arbitral Tribunal concurs with IEC. Clause 6.6 awards IEC four rights, the first of which is: *"by notice to Seller, to require Seller to agree, within five (5) Working Days of Buyer's demand, to deliver the Plant(s) within the period of time identified by Buyer at discretion."* IEC is only limited in its *"free[dom] to exercise any of its rights under (ii) and/or (iii)"* if it avails itself of the possibility of giving notice under Clause 6.6(i) requiring GEOG to agree to deliver the Trains within a certain period of time. Only in that case, IEC must wait for GEOG's answer to such requirement and, if GEOG agrees to deliver the Trains within that period of time, IEC must wait until such period of time elapses, in order to be able to exercise the rights to direct damages or to termination. Pursuant to Clause 6.6(i) IEC may grant an additional delivery term *"at discretion."* Such discretion logically includes not granting any additional delivery term at all.

⁶⁴⁵ §X.B.2.b(2)(b).

716. In conclusion, the Arbitral Tribunal finds that the Equipment Contract does not require IEC to give notice under Clause 6.6(i) before exercising its rights under Clause 6.6(ii).

(b) Clause 17.4(i) of the Equipment Contract

717. It has already been established above, that the procedure stipulated in Clause 17.4(i) was followed with regard to the VFD issue.⁶⁴⁶

718. The Arbitral Tribunal finds that the procedure was also followed with regard to the issue of incomplete and piecemeal delivery of the modules and with regard to the issue of the piping supports:

- (i) It is clear that during the period between delivery of the modules (28 March 2016) and the end of the last shipment of minor items or replacement items (February 2019) GEOG was on notice with respect to the issues that necessitated remediation. IEC and GEOG coordinated the rectification works and shipments by communication on-site and/or by email.⁶⁴⁷ The Arbitral Tribunal also finds that by requiring almost three years to rectify this issue GEOG failed to remedy a Defect within a reasonable time.

GEOG has been on notice that IEC asserts claims for compensation for the damages resulting from the protracted remediation since Claimants filed their Notice of Demand and Commencement of Arbitration with the ICDR/AAA on 31 July 2018.

The 30-day negotiation term has elapsed without agreement.

- (ii) It is also clear that GEOG was on notice of the piping support issues since 14 December 2018.⁶⁴⁸ The Arbitral Tribunal finds that GEOG failed or was unable to remedy the piping support issue within a reasonable time.

GEOG has been on notice that IEC asserts claims for compensation for the damages resulting in connection with the piping support issue since IEC's letter of 10 July 2019, wherein IEC stated:

"[...] IEC/Greenville will thus remediate, complete, commission and start-up Trains 1 and 2, with all costs, expenses and losses being added to the claim already presented.

Critical items that remain uncompleted by BHGE/GEOG include:

[...]

⁶⁴⁶ §X.B.2.d(3)(b).

⁶⁴⁷ See e.g. Mr Lancaster's chronology of communications between IEC and GEOG in the period between March 215 and June 2017 (Exhibit CER-1, ¶¶388-410).

⁶⁴⁸ See Exhibit C-242.

(vi) *Stress calculations and make-good design to remediate the stress issues in the piping.*⁶⁴⁹

The 30-day negotiation term has elapsed without agreement.

c. Which kind of damages can be recovered as direct damages under the Equipment Contract

(1) IEC's position

719. In the Statement of Claim, IEC asserts that “(1) *direct (or general) damages* [are those], *which ‘compensate for the value of the promised performance’* and (2) *consequential damages* [are those], *which ‘are indirect and compensate for additional losses incurred as a result of the breach, such as lost profits....’*”⁶⁵⁰

720. In the Claimant's First Post-Hearing Brief, IEC offers a more expansive definition (and interpretation):

*“Under New York law, direct damages are the ‘natural and probable consequence of the breach.’ Or, put another way, the losses that ‘in the ordinary course of human experience’ can be expected to result from the breach.”*⁶⁵¹

721. And it further submits that this includes “1. *the rental value of the completed structure for the period of the delay; or 2. the reasonable return on the completed structure (treated as an investment) for the period of the delay.*”⁶⁵²

722. Moreover, IEC argues that “[u]nder New York law, various categories of damages (such as lost profits) can be either direct or indirect, depending on the circumstances and the breach.”⁶⁵³ On that basis, IEC submits that none of the damages claimed are excluded under the Equipment Contract (neither the damages items covered by Mr Helsen nor those calculated by Mr Lapuerta) because “*the ‘loss of profits’ and ‘loss of use’ in Clause 19.3 refers only to damages that are indirect; not direct damages that are lost profits or lost use.*”⁶⁵⁴

(2) GEOG's position

723. In the Respondents' First Post-Hearing Brief, GEOG submits that under New York law “*direct damages are typically expectation damages, measured by what it would take to put the non-*

⁶⁴⁹ Exhibit R-156, pp. 1-2.

⁶⁵⁰ SoC, ¶384, quoting from Exhibit CLA-34.

⁶⁵¹ Cs' PHB1, ¶181, quoting from Exhibits CLA-42 and CLA-245.

⁶⁵² Cs' PHB1, ¶182, quoting from CLA-202.

⁶⁵³ Cs' PHB1, ¶177.

⁶⁵⁴ Cs' PHB1, ¶179.

breaching party in the same position that it would be in had the breaching party performed as promised under the contract."⁶⁵⁵ It also puts forward that "courts have held that such damages are measured by the 'difference between the contract price and the market value of the goods at the time of the breach.'"⁶⁵⁶ And it adds that "[t]ypical examples of direct damages include unpaid contract amounts, cost to repair defective work, and reduced project value due to nonconforming work."⁶⁵⁷

724. On the other hand, GEOG submits that consequential damages "seek to compensate a plaintiff for additional losses (other than the value of the promised performance) that are incurred as a result of the defendant's breach."⁶⁵⁸ It points out that "[t]he type of consequential damages most often sought is lost operating profits of a business"⁶⁵⁹ and that "[l]ost profits have been found to be consequential rather than direct damages 'even if shown to be foreseeable and caused by defendant's breach.'"⁶⁶⁰

725. In the Respondents' Second Post-Hearing Brief, GEOG denies that the damages items described by Mr Helsen are direct damages.⁶⁶¹ And it argues that regardless of whether those damages items are direct damages, they are in any case excluded by virtue of Clause 19.3 of the Equipment Contract⁶⁶² which, pursuant to Clause 19.8, prevails over any other provision.⁶⁶³

(3) The Arbitral Tribunal's analysis

726. The Arbitral Tribunal fully agrees with the definitions of direct and consequential damages offered by IEC in the Statement of Claim: "(2) *direct (or general) damages* [are those], which 'compensate for the value of the promised performance' and (2) *consequential damages* [are those], which 'are indirect and compensate for additional losses incurred as a result of the breach, such as lost profits....'"⁶⁶⁴

727. This definition is in line with the that offered by GEOG according to which "[g]eneral damages measure the losses in the very thing to which the plaintiff is entitled . . . [while c]onsequential damages measure . . . the income it can produce or the losses it can avoid." Nothing surprising."⁶⁶⁵

⁶⁵⁵ Rs' PHB1, ¶145, quoting from Exhibit RLA-81.

⁶⁵⁶ Rs' PHB1, ¶145, quoting from Exhibit RLA-83.

⁶⁵⁷ Rs' PHB1, ¶145, with reference to Exhibit RLA-84.

⁶⁵⁸ Rs' PHB1, ¶146, quoting from Exhibit RLA-83.

⁶⁵⁹ Rs' PHB1, ¶146, quoting from Exhibit RLA-83.

⁶⁶⁰ Rs' PHB1, ¶146, quoting from Exhibit RLA-34.

⁶⁶¹ Rs' PHB2, ¶58.

⁶⁶² Rs' PHB2, ¶59.

⁶⁶³ Rs' PHB2, ¶¶60-61.

⁶⁶⁴ SoC, ¶384, quoting from Exhibit CLA-34.

⁶⁶⁵ Rs' PHB1, ¶147, quoting from Exhibit CLA-34.

728. In other words, direct damages refer to those which the party lost from the contract itself, i.e. the benefit of the bargain or the value of the other party's performance, whereas consequential damages refer to economic harm beyond the immediate scope of the contract.
729. The Arbitral Tribunal concurs with GEOG that “[t]ypical examples of direct damages include unpaid contract amounts, cost to repair defective work, and reduced project value due to nonconforming work,”⁶⁶⁶ i.e. the cost of obtaining the “*the very thing to which the plaintiff is entitled.*”
730. IEC invokes *Int’l Fid. Ins. Co. v. Cty. Of Rockland*⁶⁶⁷ in support of the notion that it is entitled to compensation for “*a delay in the cash flow that results from operating them.*”⁶⁶⁸
731. Specifically, it quotes the words: “*the owner’s direct damages, attributable to the delay, can be measured in one of two ways: 1. the rental value of the completed structure for the period of the delay; or 2. the reasonable return on the completed structure (treated as an investment) for the period of the delay*”⁶⁶⁹ (which are in turn a quotation).
732. Indeed, the U.S. District Court for the Southern District of New York makes explicit that it is referring to “*the value of the ‘loss of use’ of the structure, or loss of revenue, that the owner or the owner’s business suffers as a result of delay in the completion of the structure.*”⁶⁷⁰
733. The Arbitral Tribunal agrees that a party that is entitled to direct damages is not only entitled to receiving the purchased object but it is also entitled to receiving that object by the agreed delivery date. Hence, such injured party is not only entitled to compensation for the cost of remedying the object’s defects, but it is also entitled to compensation for being deprived of the use of the object during the delay period. However, the Arbitral Tribunal is not convinced that under New York law direct damages for delay would include any loss of revenue.⁶⁷¹
734. The “*reasonable return*” would have to be limited to the market value of the use of the object, i.e., essentially, the rental value. However, IEC’s claim for almost USD 700 million in damages resulting from a four-year delay in obtaining cash flows for two Trains (each with a useful life of twenty years) which it purchased for USD 95 million is something entirely different.

⁶⁶⁶ Rs’ PHB1, ¶145.

⁶⁶⁷ Exhibit CLA-202.

⁶⁶⁸ Cs’ PHB1, ¶182.

⁶⁶⁹ Cs’ PHB1, ¶182, quoting from Exhibit CLA-202, *414-415.

⁶⁷⁰ Exhibit CLA-202, *414.

⁶⁷¹ Indeed, although IEC now maintains that there can be lost profits that are also direct damages (Cs’ PHB1, ¶177), in the SoC it argued that lost profits are included within the category of consequential damages (SoC, ¶388).

735. In any event, the question of the extent to which, under New York law, direct damages include loss of profit and loss of revenues, does not need to be answered here, since liability for both concepts is excluded under Clause 19.3 of the Equipment Contract.
736. The Arbitral Tribunal does not agree with IEC that *“the ‘loss of profits’ and ‘loss of use’ in Clause 19.3 refers only to damages that are indirect; not direct damages that are lost profits or lost use.”*⁶⁷² The language of Clause 19.3 does not give reason to such interpretation. The Arbitral Tribunal does not share IEC’s view that excluding loss of profit and loss of revenues pursuant to Clause 19.3 *“even when [such damages] were direct, [...] would place Clause 19.3 in harsh conflict with Clause 6.6(ii)’s broad statement that Claimants may recover ‘any direct damages,’ rendering Clause 6.6(ii) effectively meaningless.”*⁶⁷³ But even if such conflict existed, Clause 19.8 unambiguously provides that such conflict is to be solved in favour of the provisions in Clause 19, which *“shall prevail over any conflicting or inconsistent provisions contained in any of the documents comprising this Agreement, except to the extent that such provisions further restrict Seller’s liability.”*

d. Whether the limitation of liability provision in Clause 19.3 of the Equipment Contract is applicable

(1) IEC’s position

737. In the Statement of Claim, IEC contends that under New York law, *“limitations or caps on damages are not enforceable when the alleged damages arise from the gross negligence or willful misconduct of the opposing party.”*⁶⁷⁴ And it adds that *“‘[A]ll that is required for ‘gross negligence’ under New York law’ is that the breaching party’s conduct ‘smack[] of intentional wrongdoing’ or show ‘a reckless indifference to the rights of others.’ ”*⁶⁷⁵
738. IEC puts forward three circumstances which it claims justify a finding of willful misconduct or negligence that renders the limitation of liability provisions inapplicable:
- (i) GEOG’s dishonesty regarding the delivery period:

“[...] GE knowingly embarked on a course of conduct from September 2014 that made adequate performance of its obligations impossible. GE knew that it could not deliver two fully modularized skids-based LNG trains that would ‘meet the contractual

⁶⁷² Cs’ PHB1, ¶179.

⁶⁷³ Cs’ PHB1, ¶177.

⁶⁷⁴ SoC, ¶385.

⁶⁷⁵ SoC, ¶386, quoting from Exhibit CLA-38.

*specifications' on the contractually specified timeframe of nine and twelve months, yet concealed that information from Claimants."*⁶⁷⁶

IEC submits that given the difficulties that GEOG was encountering with the Shell project GEOG must have known that it did not have sufficient resources to timely complete the manufacturing of IEC's Trains.⁶⁷⁷

And it further claims that in April 2018 Mr Cody Lindsey —then GEOG's senior on-site project manager— admitted that GEOG had known from the outset that it would not be able to meet the delivery dates committed in the Equipment Contract, because experienced employees within GEOG had told the GEOG sales team as much.⁶⁷⁸

(ii) Misrepresentations during project execution:

*"GE then exacerbated the consequences of its misconduct 'by indicating repeatedly that a contractually adequate product would soon be ready.' Thus, GE not only breached the agreements but also deceived Claimants into entering them. In addition, through its repeated misrepresentations, GE prevented Claimants from terminating the relationship and moving to a different provider."*⁶⁷⁹

(iii) The high number of defects and the falsification of pre-shipment testing and inspection certificates:

*"But GE's willful misconduct and gross [...] extends as well to the vast array of design and delivery defects that have marred its conduct. As detailed above, these defects reflect GE's indifference to the timing and quality of its attempts at performance and further require that the limitations of liability be disregarded."*⁶⁸⁰

*"The sheer magnitude of the incompleteness of the modules, combined with the falsified certifications of completion, establish that this contractual breach was knowing and willful, as well."*⁶⁸¹

739. In the Statement of Reply, IEC protests that GEOG failed to comply with the Arbitral Tribunal's order⁶⁸² to produce the entire Inquiry-to-Order ("ITO") file to IEC.⁶⁸³ And it requests that the Arbitral Tribunal make *"an adverse inference that the file, if disclosed, would reveal that*

⁶⁷⁶ SoC, ¶¶389; see also SoC, ¶¶56-68, 343-359.

⁶⁷⁷ SoC, ¶¶9, 113-114; see also SoR, ¶¶232-241, 245-250, 508-509.

⁶⁷⁸ SoC, ¶114; see also SoR, ¶¶230-231, 508(a).

⁶⁷⁹ SoC, ¶389; see also SoC, ¶¶138-139, 145, 226, 233, 319-323, 368, 374, 377-378; SoR, ¶¶519-522.

⁶⁸⁰ SoC, ¶390.

⁶⁸¹ SoC, ¶323; see also SoC, ¶¶329-335; SoR, ¶¶261-266; Cs' PHB1, ¶¶154-157, 161-164.

⁶⁸² Procedural Order No. 4, Annex I, No. 12.

⁶⁸³ SoR, ¶¶225-228.

*GE/BHGE knew it was incapable of performing the Contracts, but knowingly executed them anyway, in violation of its own policies, in order to secure the substantial revenues without regard to the needs of its customer.”*⁶⁸⁴

740. Moreover, it invokes three additional grounds for rendering inapplicable the limitation of liability provisions:

(i) Abandonment:

IEC submits that by mid-May 2019 GEOG had demobilized and abandoned the project.⁶⁸⁵ It posits that GEOG’s safety concerns were pretextual.⁶⁸⁶

And it argues:

“Abandonment is a separate and independent basis for overriding damages limitations. As noted above, extreme delay can itself constitute abandonment sufficient to void a liability limitation.

*In addition, it is well-established that actual abandonment of a project can constitute gross negligence or willful misconduct sufficient to override a limitation on liability and damages. [...]*⁶⁸⁷

(ii) Uncontemplated delay:

IEC argues that “separately and independently, the liability limitations do not apply because GE’s four years of delay was not contemplated in the contracts and is so unreasonable as to constitute intentional abandonment.”⁶⁸⁸ In this regard, it explains:

“[...] The delay here, followed by GE/BHGE’s actual abandonment of the Project, is so unreasonable as to vitiate the liability limitations.

The contractual delivery dates were far from arbitrary. They were based on Claimants’ need to get LNG to hundreds of customers in Nigeria. Indeed, Claimants invested more than US\$ 500 million to establish their business of liquefying Nigeria’s natural gas and then delivering it by cryogenic truck to customers in Nigeria and West Africa that are currently served by Nigeria’s unreliable electricity and pipeline grids, or by expensive diesel fuel. Moreover, the delivery dates were based on Claimants’ need to make good on negotiations with the Nigerian government — specifically, Greenville’s negotiations with the Federal Ministry of Power of Nigeria to supply LNG to a power plant that the

⁶⁸⁴ SoR, ¶228.

⁶⁸⁵ SoR, ¶286.

⁶⁸⁶ SoR, ¶¶287-293.

⁶⁸⁷ SoR, ¶¶434-435; see also Cs’ PHB1, ¶¶169-170, 86-89.

⁶⁸⁸ SoR, Heading before ¶425; see also Cs’ PHB1, ¶¶167-168.

*Ministry of Power was building in Kaduna State, a power plant that was scheduled for completion in 2015. Claimants could have never envisioned four years of delay, followed by outright abandonment.*⁶⁸⁹

(iii) Fundamental breach:

Finally, IEC submits that GEOG's "*failure to deliver in 9 and 12 months, as well as its failure to do basic engineering — process (liquefaction), mechanical (stress, flare and PRVs) and electrical (starting system and cabling) — breached fundamental contractual obligations that have caused years of delays.*"⁶⁹⁰ And it argues that "[t]hese breaches are sufficient to overcome both the limitations on delay damages and the exclusion of consequential damages and lost profits."⁶⁹¹

741. In the Claimants' First Post-Hearing Brief, IEC adds "*Dishonesty Regarding BHGE's Process Engineering*" to the circumstances which it claims justify a finding of willful misconduct or negligence that renders the limitation of liability provision inapplicable. In this regard, it explains that GEOG "*deceived, concealed and misrepresented the facts regarding its process engineering before and after the Contract was signed.*"⁶⁹²
742. In the Claimants' Second Post-Hearing Brief, IEC replies to GEOG's objection to IEC invoking the foregoing three grounds at a late stage of the proceedings. It denies that these grounds are new claims and puts forward that they are mere "*counter-arguments*" which are not "*rooted in new facts*" but on facts that are "*the bedrock facts of this case.*"⁶⁹³ And it points out that "[t]he notion that BHGE has been deprived of an opportunity to contest those facts or respond to legal authorities is absurd. As to abandonment, BHGE fully abandoned the project after the SoC had been filed."⁶⁹⁴
743. To GEOG's argument that under New York law these three principles are only applicable to clauses that exclude all damages for delay, IEC replies that "*New York imposes no such limitation, and it would make no sense.*"⁶⁹⁵

⁶⁸⁹ SoR, ¶¶428-429.

⁶⁹⁰ SoR, ¶430.

⁶⁹¹ SoR, ¶431; see in this regard, SoR, ¶¶431-433; see also Cs' PHB1, ¶¶171-172.

⁶⁹² Cs' PHB1, ¶158.

⁶⁹³ Cs' PHB2, ¶124.

⁶⁹⁴ Cs' PHB2, ¶124.

⁶⁹⁵ Cs' PHB2, ¶¶124-125.

(2) GEOG's position

744. In the Statement of Defense, GEOG submits that it is only in exceptional circumstances that courts applying New York law have declined to enforce exculpatory clauses on public policy grounds.⁶⁹⁶ And it explains:

*"In setting a high bar for this public policy exception, the Court of Appeals stated that 'an exculpatory clause is unenforceable when, in contravention of acceptable notions of morality, the misconduct for which it would grant immunity smacks of intentional wrongdoing'. Indeed, the Court of Appeals has held that willful acts 'subsume[s] conduct which is tortious in nature, i.e., wrongful conduct in which defendant willfully intends to inflict harm on plaintiff at least in part through the means of breaching the contract between the parties.' "*⁶⁹⁷

745. It further argues that courts have found exculpatory clauses to be enforceable even in the face of intentional breaches provided the breaching party acted in pursuit of a "*legitimate economic self-interest*."⁶⁹⁸

746. As regards IEC's charge of dishonesty regarding the delivery period, GEOG alleges, among others, the following:

*"[...] in focusing almost entirely on the statements made by GEOG's marketing team, IEC's characterization of the facts thoroughly distorts the arm's length relationship between the two sophisticated contracting parties. In fact, following initial discussions involving GEOG's marketing team, the parties engaged in lengthy negotiations that included extensive discussions during which IEC scrutinized the technical, commercial, and legal details of the project. Without citing to any specific statements or omissions that were made in the course of the negotiations, and focusing instead on vague and conclusory allegations regarding GEOG's apparent 'lack of expertise in and lack of success with building LNG plants', IEC claims that 'GE withheld material information concerning its present capabilities during contract negotiations.' "*⁶⁹⁹

747. With respect to the alleged misrepresentations during project execution, GEOG objects that IEC does not "*cit[e] a single specific, actionable misstatement*."⁷⁰⁰

⁶⁹⁶ SoD, ¶174.

⁶⁹⁷ SoD, ¶174, quoting Exhibit RLA-33 and Exhibit RLA-34.

⁶⁹⁸ SoD, ¶175.

⁶⁹⁹ SoD, ¶186.

⁷⁰⁰ SoD, ¶171.

748. As for gross negligence, GEOG submits that it did not act with reckless indifference to IEC's interest:

*"Far from supporting a finding of reckless indifference, the record in fact reflects a sustained effort by the GEOG Entities to save a project that IEC severely mismanaged. The GEOG Entities provided a punch list of items in both their and IEC's scope, kept its technicians on the project site to assist with a variety of issues caused by IEC that were out of the GEOG Entities' scope, and mobilized additional personnel with continuous on-site presence to get the Rumuji Plant up and running. Indeed, the GEOG Entities provided all of this additional assistance without payment and 'without worrying whether it was [GE's] scope or IEC[s] scope', relying only on IEC's promise that the economic implications would be resolved later. On this evidence, IEC cannot prove that the GEOG Entities showed a reckless indifference to IEC's interest."*⁷⁰¹

749. In the Respondents' First Post-Hearing Brief, GEOG objects to IEC invoking the grounds of abandonment, un contemplated delay and fundamental breach at a late stage of the proceedings.⁷⁰²
750. Moreover, it argues that *"all the case law that the Claimants cite in support of these new, fact-based exceptions are inapposite"* as *"[t]hey involve 'no-damages-for-delay' clauses, which waive claims for any damages resulting from delays (direct, indirect and consequential damages),"*⁷⁰³ which is not the case with the Equipment Contract.⁷⁰⁴
751. In the Respondents' Second Post-Hearing Brief, GEOG submits that *"for a party to avoid a limitation of liability clause and to 'recover on the ground of abandonment, a contractor must establish that the contractee is responsible for delays which are so unreasonable that they connote a relinquishment of the contract by the contractee with the intention of never resuming it."*⁷⁰⁵ GEOG contends that it did not interrupt or refuse to carry out works but that the issue was merely of presence at site, to which GEOG had no contractual obligation.⁷⁰⁶
752. Further, GEOG objects to IEC's allegations on false certifications which it considers untimely.⁷⁰⁷

⁷⁰¹ SoD, ¶177.

⁷⁰² Rs' PHB1, ¶¶185-186.

⁷⁰³ Rs' PHB1, ¶187.

⁷⁰⁴ Rs' PHB1, ¶188; see also Rs' PHB2, ¶45.

⁷⁰⁵ Rs' PHB2, ¶46, quoting from Exhibit RLA-102.

⁷⁰⁶ Rs' PHB2, ¶¶46-49.

⁷⁰⁷ Rs' PHB2, ¶18.

(3) Arbitral Tribunal's analysis

(a) Willful misconduct and gross negligence

753. It is agreed among the Parties that willful misconduct and gross negligence render the contractual limitations of liability inapplicable under New York law.⁷⁰⁸

i. Dishonesty regarding the delivery period

754. The Arbitral Tribunal does not find that there is sufficient evidence for a finding that GEOG acted with willful misconduct when it represented that it was in a position to fulfill the Delivery Date agreed in the Equipment Contract.

755. Indeed, the only evidence of an actual positive knowledge by GEOG that it would not be able to fulfill the Delivery Dates are (i) minutes prepared by Ms Sahajwalla of a meeting on 13 April 2018 with Mr Lindsey, GE's Rumuji site manager at the time,⁷⁰⁹ and (ii) notes taken by Mr Van den Broeke of an August 2018 meeting with Mr Lindsey.⁷¹⁰

756. Both documents reflects their author's recollection of Mr Lindsey's stating, on both occasions, said that Mr Salof had disagreed with others at GEOG about the feasibility of the 9-month construction term and had considered 18 months to be necessary. Apparently, however, Mr Salof's opinion did not hold sway ("*nobody listened to Mr. Salof*").⁷¹¹

757. Neither Mr Lindsey's nor Mr Salof's witness testimony was offered to the Arbitral Tribunal, who is thus not in a position to critically assess the relevance of an utterance by Mr Salof the context of which remains unclear. In this regard, IEC faults GEOG for failing to present Mr Lindsey as a witness.⁷¹² However, IEC has itself not attempted to call Mr Lindsey.⁷¹³

758. In any event, these two documents are evidence that there were internal disagreements about the time GEOG would require to manufacture the Trains. One skeptical opinion within GEOG does not amount to GEOG having positive knowledge that it could not meet the Delivery Dates. It appears that others considered it feasible that construction could be completed within 9 months. And this latter opinion seems to have prevailed.

759. Perhaps this prevailing opinion was not the most prudent. And perhaps GEOG should have known that it might encounter difficulties to deliver the Trains on time (IEC highlights many circumstances pointing in that direction, such as GEOG's prior experience with the Shell project).

⁷⁰⁸ SoC, ¶¶385-392; SoD, ¶¶99, 174-181.

⁷⁰⁹ Exhibit C-13.

⁷¹⁰ Exhibit C-14.

⁷¹¹ Exhibit C-13.

⁷¹² See e.g., SoR, ¶411.

⁷¹³ IEC has not availed itself of the possibilities provided for at paragraph 70 of Procedural Order No. 1.

But a brash confidence in one's ability to perform does not equate to willful misconduct or gross negligence, the threshold of which is very high in both cases.

760. As regards IEC's request that the Arbitral Tribunal infer from GEOG's failure to disclose the ITO file *"that GE/BHGE knew it was incapable of performing the Contracts, but knowingly executed them anyway, in violation of its own policies, in order to secure the substantial revenues without regard to the needs of its customer,"*⁷¹⁴ the Arbitral Tribunal finds GEOG's explanation of why the production of the final checklists was compliant with the Arbitral Tribunal's production order to be plausible:

*"On average, in this kind of project, in the ITO phase there are further supporting documents, but since this was a fast track project and since many features of the Trains were the same as the CGC train, many steps were carried out during meetings, and only the final checklist was exchanged."*⁷¹⁵

761. Thus, the adverse inference requested by IEC is declined.

ii. Falsification of Documents

762. In the Arbitral Tribunal's view, the alleged recent falsifications (the letter giving notice of withdrawal from Rumuji, Mr Hillier's representation of independence, the allegedly falsified time sheets) cannot support a finding of wilful misconduct with respect to the much earlier breaches on which IEC's claims are based.
763. In addition, the Arbitral Tribunal fails to see any indication of falsification in the Notice of Mechanical Completion and in the letter giving notice of withdrawal from Rumuji. This is merely a matter of divergent views about the correctness of statements made in those documents.
764. The issue with Mr Hillier's independence can, as the case may be, impact the weight attributed to his testimony, but it does not amount to falsification, in the Arbitral Tribunal's opinion.
765. As for the timesheets, Mr Kassem disclosed from the outset that they had *"subsequently reviewed these timesheets to allocate which hours were part of the Services Contract and which were outside of GEOG's scope and additional works provided."*⁷¹⁶
766. The only alleged falsification that might be of any relevance are the false entries in the various inspection and test reports. However, in the Arbitral Tribunal's view, the issues about which the Claimants complain might indicate a deficient manufacturing and quality assurance / quality control by Turner and/or GEOG, but they do not reach the threshold of falsification of documents.

⁷¹⁴ SoR, ¶228.

⁷¹⁵ Rs' PHB2, p. 38, No. 7.

⁷¹⁶ Exhibit RWS-5, ¶21, emphasis added.

iii. Dishonesty regarding the process engineering

767. The Arbitral Tribunal has analyzed the issue of the process engineering in some detail⁷¹⁷ and does not find sufficient evidence for willful misconduct or gross negligence.
768. In any event, this issue is unrelated to the delay events identified to have driven the delayed operation of the Trains.

iv. Gross negligence evidenced by deficient performance

769. Both IEC and GEOG rely on *Kalisch-Jarcho, Inc. v. City of New York* for the concept of gross negligence,⁷¹⁸ and they concur that it is required that the breaching party's misconduct "*smacks of intentional wrongdoing*."⁷¹⁹
770. In that case the Court of Appeals of New York explained:
- "[...] an exculpatory clause is unenforceable when, in contravention of acceptable notions of morality, the misconduct for which it would grant immunity smacks of intentional wrongdoing. This can be explicit, as when it is fraudulent, malicious or prompted by the sinister intention of one acting in bad faith. Or, when, as in gross negligence, it betokens a reckless indifference to the rights of others, it may be implicit."*⁷²⁰
771. The Arbitral Tribunal is not convinced that the "*sheer magnitude*"⁷²¹ of issues with GEOG's performance provides sufficient basis to establish that GEOG acted with reckless indifference to IEC's rights.
772. The engineering and manufacturing of an industrial plant, such as the Trains, is a complex project. During the execution of such projects issues invariably occur that require addressing. The number of issues in the present case might be high but the Arbitral Tribunal is not persuaded that this conclusively establishes gross negligence, the threshold of which is very high.
773. Likewise, the fact that, as IEC claims, many of the defects the Trains are riddled with "*are life-threatening and potentially plant destroying*"⁷²² is not sufficient for a finding of gross negligence. In the Arbitral Tribunal's view, the extent of the harm caused is not relevant to assess whether negligence was simple or gross. A merely negligent behaviour can have devastating

⁷¹⁷ See above, §§X.B.2.b(1)(c)i-X.B.2.b(1)(c)ii.

⁷¹⁸ SoC, ¶386, Footnote 454; Exhibit CLA-7; SoD, ¶174, Footnote 168; Exhibit RLA-33.

⁷¹⁹ SoC, ¶386; SoD, ¶174.

⁷²⁰ Exhibit CLA-7, **416-417.

⁷²¹ SoC, ¶¶319-323.

⁷²² SoC, ¶329.

consequences; conversely, a grossly negligent one can have minor consequences or no consequences at all.

774. For a finding of gross negligence, the Arbitral Tribunal would need to be pointed at specific instances in which GEOG acted with reckless disregard of, or with a lack of substantial concern for, the rights of Claimants.
775. As explained by the United States Court of Appeals, Second Circuit, in *Bayerische Landesbank v. Aladdin Cap. Mgmt.*, “[r]ecklessness in the context of a gross negligence claim means ‘an extreme departure from the standards of ordinary care,’ such that ‘the danger was either known to the defendant or so obvious that the defendant must have been aware of it.’”⁷²³
776. IEC has failed to prove such extreme departure from the standards of ordinary care.

(b) Adverse inferences

777. As regards IEC’s request for adverse inferences from GEOG’s failure to produce “*the internal GE schedules or communications that justified GE’s promises to Claimants in November 2016 [...] and January 2017 [...]*,”⁷²⁴ GEOG explained:

*“The original files are no longer available because they were originated from a version of the software ‘Primavera’ which is no longer available to the Respondents since it was used in GEOG’s Schertz factory that has been shut down.”*⁷²⁵

778. The Arbitral Tribunal does not consider that there are grounds to conclude with sufficient confidence that GEOG’s explanation is dishonest.
779. Likewise, as regards the communications between Chart and GEOG between 3 September 2014 and 15 September 2014, Mr Zhao’s work papers during that same period, the stress calculation files for the stress analyses of late 2018 and 2019, GEOG’s audited and unaudited financials, the ITO file and the Turner contract,⁷²⁶ the Arbitral Tribunal does not consider that there are grounds to conclude with sufficient confidence that GEOG’s explanations on the extent of its document production are dishonest.⁷²⁷

⁷²³ Exhibit CLA-5, *61.

⁷²⁴ Cs’ PHB1, ¶153 (p. 47); see also SoR, ¶411.

⁷²⁵ Respondents’ letter of 24 September 2019, p. 3.

⁷²⁶ Cs’ PHB1, ¶¶165-166; see also SoR, ¶411.

⁷²⁷ As regards the ITO file, see above, ¶760.

(c) Whether the new arguments for inapplicability of the limitations of liability, as relied on in the Statement of Reply, are admissible

780. As regards GEOG's objection to the admissibility of the "*three additional grounds – 'uncontemplated delay,' 'fundamental breach,' and 'abandonment,'*"⁷²⁸ put forward by IEC in the Statement of Reply, the Arbitral Tribunal does not concur with GEOG's characterization of these additional grounds as "*new fact-based claims.*"⁷²⁹
781. Except for the fact of GEOG's demobilization from site in May 2019, which IEC introduced to the arbitration as early as 5 July 2019,⁷³⁰ the new legal arguments of uncontemplated delay, fundamental breach and abandonment do not rely on any new facts that had not already been alleged by IEC.
782. GEOG had ample opportunity to address these arguments at the Hearing, the Additional Hearing, and in its two post-hearing briefs.
783. The Arbitral Tribunal sees no prejudice to GEOG or due process obstacle under New York law for the Tribunal to address these arguments.

(d) Uncontemplated delay

784. The case law relied on by IEC holds that uncontemplated delays may pose an exception to the enforceability of "*clauses in construction contracts exculpating parties from damages for delay in performance.*"⁷³¹ Indeed, the case law invoked by IEC refers in all cases to broad no-damage-for-delay clauses:
- (i) "*no-damage-for-delay clauses*"; "*clauses in construction contracts exculpating parties from damages for delay in performance*";⁷³²
 - (ii) "*a broad exculpatory clause which relieves it from any claim arising from delay*"; "*a clause generally exculpating the contractee from delay liability*";⁷³³
 - (iii) "*clauses in construction contracts which exculpate parties from damages resulting from delays in performance*"; "*exculpatory contract provision*";⁷³⁴

⁷²⁸ Rs' PHB1, ¶185.

⁷²⁹ Rs' PHB1, ¶186.

⁷³⁰ Claimants' email of 5 July 2019.

⁷³¹ SoR, ¶425, quoting from CL-125, in turn citing *Corinno Civetta Const. Corp. v. City of New York*, 493 N.E.2d 905, 910 (N.Y. 1986).

⁷³² Exhibit CLA-125, *228-*229.

⁷³³ Exhibit CLA-126, *264.

⁷³⁴ Exhibit CLA-127, *373.

- (iv) “‘no damage for delay’ clause.”⁷³⁵
- (v) “no-damages-for-delay clause”; “a contract clause barring damages for delay in the performance of the contract.”⁷³⁶
785. However, IEC seeks to expand the scope of application of the unanticipated-delay exception from no-damage-for-delay clauses to, more generally, “liability limitations.”⁷³⁷
786. As explained above, the damages as calculated by Mr Lapuerta as well as some of the damages items submitted by Mr Helsen are indirect damages and/or they are otherwise excluded under the general provision contained in Clause 19.3, which limits both parties’ liability to damages different from loss of profit or revenues, loss of use of the plant, parts or any associated equipment, downtime costs, claims of a party’s customers for such damages, or any special, consequential, incidental, indirect or exemplary damages.
787. This provision merely provides for a limitation of liability. It is not a full exculpatory clause. Moreover, it is not specifically referred to delay but is meant to be applicable to any liability, for whatever reason. Hence it does not qualify as a no-damage-for-delay clause and, thus, its application is not barred by the unanticipated-delay exception.
788. In addition to Clause 19.3, the Equipment Contract contains further provisions which also result in the exclusion of the damages as calculated by Mr Lapuerta as well as of some of the damages items submitted by Mr Helsen, namely:
- (i) For delay in delivery up until the Delay Limit Date, Clause 6.5 provides for liquidated damages and it excludes any other remedies:⁷³⁸
- “The payment of Liquidated Damages shall be Buyer’s sole and exclusive remedy and Seller’s exclusive liability for any failure to achieve or deliver a Plant (or any portion thereof) by the Delay Limit Date or any agreed extension thereof. Should Seller’s failure to deliver a Plant (or any portion thereof) continue beyond the Delay Limit Date, then Buyer shall have the right to pursue and exercise the rights and remedies in Clause 6.6.”*

⁷³⁵ Exhibit CLA-128, *415.

⁷³⁶ Exhibit CLA-129, *406.

⁷³⁷ SoR, ¶¶425, 427.

⁷³⁸ For delays extending beyond the Delay Limit Date Clause, 6.6 provides that direct damages shall be due, and it also stipulates further remedies, namely IEC’s right to terminate the Equipment Contract and to acquire portions of the Trains that are already manufactured. This provision entails no exclusion or limitation of liability. Here, the limitation of GEOG’s liability to direct damages does not follow from Clause 6.6 but from the general limitation of liability in Clause 19.3.

Again, this exclusion of remedies other than liquidated damages is not a full exculpatory clause. Hence it does not qualify as a no-damage-for-delay clause and, thus, its application is not barred by the unanticipated-delay exception.

And, in any event, a delay up until the Delay Limit Date is evidently within the parties' contemplation.

- (ii) For delays by GEOG in remedying a Defect, Clause 17.4 provides that direct damages shall be due if GEOG fails or is unable to remedy a Defect within a reasonable time. It further provides that in the event that due to GEOG's failure or inability to remedy the Defect IEC is deprived of a substantial part of the benefit of the Trains, IEC may terminate the Equipment Contract in accordance with Clause 28.2. And Clause 17.6 provides that the remedies provided for in Clause 17 are the exclusive remedies for all claims based on failure of or defect in the Trains or parts provided under the Equipment Contract. Again, this limitation of remedies is not a full exculpatory clause. Hence it does not qualify as no-damage-for-delay clause and, thus, its application is not barred by the unanticipated-delay exception.

Moreover, in Clause 17.4 the parties have specifically contemplated the situation that "*Seller fails or is unable to remedy a Defect within a reasonable time.*" These are precisely the facts alleged by the Claimants, namely, not just that GEOG took a long time to remedy defects but that it did not remedy them at all, within a reasonable time. For this specific situation, within the parties' contemplation, the parties have stipulated the specific remedies mentioned above.

(e) Fundamental breach

789. In the Arbitral Tribunal's view, the Equipment Contract does not reflect IEC's allegations on the fundamental nature of the committed Delivery Dates. On the contrary, delays exceeding the Delay Limit Date and the remedies in that situation were specifically contemplated in Clause 6.6 of the Equipment Contract.⁷³⁹ If timely delivery had been that fundamental, the Equipment Contract should have been drafted accordingly.

(f) Abandonment

790. Abandonment or repudiation of the agreement are specifically contemplated in the Equipment Contract. For these cases, Clause 28.2.1(iii) stipulates a specific remedy, namely the right to

⁷³⁹ See above, ¶¶592(ii).

termination. Pursuant to Clause 28.2.2(iii), upon such termination, IEC may recover its direct damages subject to the limitation of liability under Clause 19.2.

(g) Conclusion

791. The Arbitral Tribunal thus concludes that the limitation of liability provision in Clause 19.3 of the Equipment Contract remains applicable.

e. Damages items

(1) Loss of auxiliary products and containers for the drying process

(a) IEC's position

792. In the Statement of Claim, IEC claims compensation for USD 859,809.13 spent by Greenville on nitrogen and chemical storage products which were wasted as a consequence of either (i) the drying process having taken longer than would normally be required, which in turn was a consequence of the protracted installation and commissioning of the Trains due to the delivered modules being defective and incomplete, and/or (ii) the drying process needing to be repeated when the VFDs arrive.⁷⁴⁰

"Loss of Auxiliary Products and Containers in the Drying Process. Claimants have wasted US\$ 859,809.13 on nitrogen and chemical storage products because of (i) GE's improperly long-last drying process, and (ii) the fact Trains 1 and 2 have now been dried but will have to be dried again when the VFDs arrive. This expense is a direct result of GE's misconduct."

793. In this regard, Mr Helsen explains in his first witness statement:

"We also have wasted capital expenses on the drying process. Before starting commissioning, the liquefaction plants need to go through a drying process requiring injection of nitrogen. For Trains 1 and 2, we have been forced to provide nitrogen for more than 6 months, 4x as long as the normal process. As a result, we have incurred excessive costs for nitrogen. Moreover, the drying process we have gone through for Trains 1 and 2 may now be wasted if the trains must sit idle for an extended period while GE's start up issues are resolved."

The total cost of nitrogen is US\$ 398,248.69, and of that amount 80% — US\$ 318,627.75 — was unnecessary. A list of nitrogen charges and sample invoices for nitrogen are attached as Exhibit C-355. In addition, the refrigeration process requires

⁷⁴⁰ SoC, ¶401.

different gases to be available (ethylene and LNG), and those gases evaporate over time. Based on GE's representations, we have rented containers for these refrigerants for almost 18 months, from November 2017 through the beginning of March 2019. The excessive cost of the container rental and products evaporated is US\$ 541,181.38. A list of charges for container rental and the evaporated gases payable to Messer is attached as Exhibit C-356."⁷⁴¹

794. In the Statement of Reply, IEC updated these figure to USD 1,084,953.74.⁷⁴² As explained by Mr Helsen in his second witness statement, the cost of container rentals and LNG and ethylene is increased to USD 766,325.99 as of 1 August 2019, while the cost of nitrogen remains unchanged at USD 318,627.75.⁷⁴³

(b) GEOG's position

795. In the Respondents' Post-Hearing Brief, GEOG objects that this claim "*is based on an estimated amount of nitrogen*" but that "*Mr. Helsen provides no details on the grounds of the estimate, the use of the nitrogen (what about Train 3 and the BOP?)*."⁷⁴⁴
796. GEOG also points out that this is a cost sustained by Greenville, not by IEC.⁷⁴⁵

(c) Arbitral Tribunal's analysis

i. Whether this item constitutes direct damages

797. The Arbitral Tribunal finds that the incremental costs associated to the installation, commissioning and start-up, that are the consequence of GEOG's delays in, first, delivering the Trains, and then, remediating the Trains' defects, are costs of IEC getting what GEOG was supposed to give under the Equipment Contract. As such they are direct damages.
798. GEOG has not disputed that the auxiliary products and containers for the drying process which IEC is claiming for are required for the installation and commissioning of the Trains.
799. Thus, to the extent IEC –or, in this case, Greenville– spent more on auxiliary products and containers for the drying process than it would have but for GEOG's delays, it may recover such incremental costs.

⁷⁴¹ Exhibit CWS-5, ¶¶57-58.

⁷⁴² SoR, ¶¶549, 551; Exhibit CWS-10, ¶¶45-51; see also Cs' PHB1, ¶120.

⁷⁴³ Exhibit CWS-10, ¶¶45-51.

⁷⁴⁴ Rs' PHB1, ¶154.

⁷⁴⁵ Rs' PHB1, ¶154.

ii. Whether the quantum is sufficiently substantiated

800. Mr Helsen asserts that these damages amount to USD 1,084,953.74,⁷⁴⁶ and he explains that this amount is the sum of the following two items:

- (i) Nitrogen: USD 318,627.75, which is 80% of the total cost of nitrogen (of USD 398,248.69),⁷⁴⁷ those 80% being the portion that was as a consequence of GEOG's delays and thus excessive.⁷⁴⁸ The explanation provided is that nitrogen had to be provided for 6 months,⁷⁴⁹ which is about five times as long as normal. Therefore, Mr Helsen considers that 80% of the costs were excessive.
- (ii) Rental of containers for refrigerant (ethylene and LNG) and evaporation of refrigerant: The amount asserted in Mr Helsen's first witness statement for the excessive costs of rental and evaporation was USD 541,181.38, as of March 2019.⁷⁵⁰ The explanation provided was that "[b]ased on GE's representations, we have rented containers for these refrigerants for almost 18 months, from November 2017 through the beginning of March 2019."⁷⁵¹ In Mr Helsen's second witness statement,⁷⁵² the amount was updated to USD 766,325.99, as of 31 August 2019, which was broken down as:⁷⁵³
 - (a) USD 519,892.38 (rent)
 - (b) USD 198,565.92 (ethylene)
 - (c) USD 47,867.69 (LNG)

801. The Arbitral Tribunal considers that the quantum of this damages item is sufficiently substantiated.

iii. Whether IEC can claim for damages incurred by Greenville

802. In contrast to the alleged damages related to the remediation of defects by IEC in lieu of GEOG, which were all incurred directly by IEC, many of the damages associated with the delayed operation of the Trains, including the loss of auxiliary products and containers for drying process, were incurred by Greenville.

⁷⁴⁶ Exhibit CWS-10, ¶51.

⁷⁴⁷ The total cost is supported by Exhibit C-355 and Appendices U, V and W to Exhibit CWS-10.

⁷⁴⁸ Exhibit CWS-5, ¶¶57-58; Exhibit CWS-10, ¶¶45-47.

⁷⁴⁹ As of the date of Mr Helsen's first witness statement, Exhibit CWS-5, i.e. March 2019. The amount was not updated in Mr Helsen's second witness statement, Exhibit CWS-10.

⁷⁵⁰ Exhibit CWS-5. This amount was supported by Exhibit C-356.

⁷⁵¹ Exhibit CWS-5, ¶58.

⁷⁵² Exhibit CWS-10.

⁷⁵³ These amounts are supported by Appendices X and Y to Exhibit CWS-10.

803. In this regard, Mr Lapuerta asserts that *“if the delay in the project causes Greenville to lose \$1, then its 100% shareholder IEC will lose \$1.”*⁷⁵⁴
804. GEOG challenges this assertion by stating that “[t]he whole discussion in the expert report and at the Hearing that ‘one dollar of loss to Greenville is equal to one dollar of loss to IEC’ is legally meaningless – and difficult to follow from an accounting and factual standpoint”⁷⁵⁵ and, similarly, that “[t]his is simply wrong, factually and as a legal matter” and that “[i]t also ignores the contracts between IEC and Greenville and the ownership structure described by Mr. Helsen.”⁷⁵⁶
805. As stated by the U.S. District Court for the Northern District of New York, a parent company may recover losses incurred by its subsidiary if such losses flow inexorably to the parent.⁷⁵⁷
806. This is the case with IEC and Greenville. In this regard, the Arbitral Tribunal agrees, broadly, with the notion expressed by Mr Lapuerta that *“if the delay in the project causes Greenville to lose \$1, then its 100% shareholder IEC will lose \$1.”*⁷⁵⁸ IEC is the sole owner of Greenville (indirectly, through the intermediate Belgian entity, West Africa Electric NV).⁷⁵⁹ Consequently, any financial loss incurred by Greenville diminishes the value of IEC’s equity in Greenville, which is a financial loss to IEC.
807. In this regard, Mr Lapuerta also explained:
- “IEC might only suffer a portion of the loss in three scenarios: if Greenville had borrowed funds from a bank, or if Greenville could not repatriate profits to IEC, or if IEC had to pay a second layer of taxes that did not apply to Greenville. The first two scenarios do not apply to this case. The third scenario may eventually apply, after the expiration of a five-year tax exemption period, and after Greenville pays back its loans to IEC, shifting to the payment of dividends. At that point, IEC may face a cost associated with a relatively small tax on dividends, if it cannot credit a dividend tax payment against other income. The effect is relatively distant and minor, [...].”*⁷⁶⁰
808. Indeed, IEC is the sole lender/funder of Greenville.⁷⁶¹ Consequently, Greenville’s entire profit/EBITDA margin goes to IEC to repay loans, pay dividends or enhance the value of IEC’s equity in Greenville. And absent a specific allegation regarding the effect which taxes payable

⁷⁵⁴ Exhibit CER-10, ¶15.

⁷⁵⁵ Rs’ PHB1 ¶67.

⁷⁵⁶ Rs’ PHB2, ¶8.

⁷⁵⁷ Exhibit CLA-164, *25; see also Exhibits CLA-165, *19, and CLA-166, *575.

⁷⁵⁸ Exhibit CER-10, ¶15; see in this regard: SoR, ¶¶5, first bullet point, 525-532, 544-545; Cs’ PHB2, ¶¶131-133.

⁷⁵⁹ SoR, ¶438(d).

⁷⁶⁰ Exhibit CER-10, ¶15.

⁷⁶¹ See Exhibit CER-10, ¶102.

by IEC on dividends may have on the quantum of the damages items described by Mr Helsen the Arbitral Tribunal shall assume that there is no such effect.

809. Thus, the Arbitral Tribunal finds that, under Clauses 6.6(ii) and 17.4(i) of the Equipment Contract, IEC may recover direct damages incurred by Greenville as a result of the delayed entry into operation, such as the loss of auxiliary products and containers for drying process.
810. In conclusion, IEC's claim for damages in an amount of USD 1,084,953.74 for the loss of auxiliary products and containers for the drying process is to be awarded in full.

(2) Loss of useful life of Trains and balance of plant and of logistical and customer equipment

(a) IEC's position

811. In the Statement of Claim, IEC claims USD 53,689,812.14 for loss of useful life of the Trains delivered by GEOG and USD 12,412,682.46 for the loss of useful life of logistical and customer equipment, resulting from the equipment sitting idle during the delay in reaching operation.⁷⁶²
812. In the Statement of Reply, IEC updated these figures⁷⁶³ to USD 68,729,792.78 and USD 19,074,435.52, respectively, "*to account for the passage of time and events that have occurred since [Mr Helsen's] first witness statement.*"⁷⁶⁴

(b) GEOG's position

813. In the Respondents' First Post-Hearing Brief GEOG points out that these items "*are not direct damages, whatever definition of direct damages is applied*" and that "*these claims are based on the wrong factual assumption that the Trains have a useful life of 20 years from delivery, instead of 20 years from start-up.*"⁷⁶⁵

(c) Arbitral Tribunal's analysis

814. IEC and Mr Helsen distinguish between the loss of useful life of,
- (i) Trains and balance of plant, on the one hand, and
 - (ii) logistical and customer equipment, on the other.
815. However, the former needs to be further distinguished:

⁷⁶² SoC, ¶402.

⁷⁶³ SoR, ¶¶549, 551; Exhibit CWS-10, ¶¶59, 66; see also Cs' PHB1, ¶119.

⁷⁶⁴ Exhibit CWS-10, ¶55.

⁷⁶⁵ Rs' PHB1, ¶155; see also Rs' PHB2, ¶¶74, 77(i).

- (i) The loss of useful life of the Trains delivered by GEOG can be considered to be direct damages as they are lost from the contract itself, i.e. the benefit of the bargain or the value of GEOG's performance.⁷⁶⁶ Indeed, GEOG itself mentioned "*reduced project value due to nonconforming work*" as a typical example of direct damages.⁷⁶⁷ And the U.S. District Court for the Southern District of New York has found that direct damages for delay include the loss of use during the delay period.⁷⁶⁸

However, Clause 19.3 of the Equipment Contract excludes liability for loss of use of the Plant, i.e. of the two Trains.⁷⁶⁹

- (ii) In contrast, the loss of useful life of the balance of plant (including Train 3, which Mr Helsen includes in his calculation) are indirect damages.

816. Likewise, the loss of useful life of logistical and customer equipment are indirect damages.

817. Thus, the Equipment Contract excludes all claims asserted by IEC for loss of useful life.

818. The Arbitral Tribunal notes that, even if one were to consider that these claims, or some of these claims, are not excluded, IEC has not discharged its burden of proof that GEOG's delay has caused the alleged loss of useful life of the Trains, balance of plant and/or logistical and customer equipment.

- (i) As regards the Trains and the balance of plant, while it does not seem implausible that "*a plant remaining inactive in severe tropical conditions experiences diminishment of economic useful life*,"⁷⁷⁰ the lost period of useful life is not necessarily identical to the duration of the period of inactivity. The wear and tear of operation may be different from the effects of prolonged inactivity. IEC's own expert, Mr Lumley, testified that when a "*Plant is design[ed] to have an operating life of 20 years*," these twenty years start running "[w]hen you first start running -- start -- after commissioning."⁷⁷¹ Mr Helsen's assessment made "*from an accounting perspective*"⁷⁷² is not a substitute for an independent expert assessment of the actual loss of useful life in terms of time and money.

- (ii) Similar considerations are applicable to the logistical and customer equipment. Mr Helsen again performs an assessment "*from an accounting perspective*"⁷⁷³ for which he assumes certain "*depreciations periods*" and "*residual values*" which he takes from IEC's cash flow

⁷⁶⁶ See above, §728.

⁷⁶⁷ Rs' PHB1, ¶145.

⁷⁶⁸ Exhibit CLA-202, *414.

⁷⁶⁹ See definiton of "Plant" in Clause 1 of Equipment Contract.

⁷⁷⁰ Exhibit CWS-5, ¶59.

⁷⁷¹ Tr. Day 6, 158:2-7.

⁷⁷² Exhibit CWS-5, ¶60.

⁷⁷³ Exhibit CWS-5, ¶61.

modelling but for which he provides no support. The Arbitral Tribunal has no reason to assume that these accounting values⁷⁷⁴ match real life circumstances.

(3) OPEX expenses wasted during delay

(a) IEC's position

819. In the Statement of Claim, IEC claims compensation for USD 53,864,187.59 in operational expenses *"that should have been offset by positive cashflow beginning January 2016."*⁷⁷⁵ This figure includes expenses for the period from 1 April 2016 to 31 December 2018.⁷⁷⁶
820. In the Statement of Reply, IEC updated this figure⁷⁷⁷ to USD 75,084,758, by including the year 2019 up to 15 November, *"and by excluding all financial income and charges."*⁷⁷⁸
821. To GEOG's criticism of the items individual expenses making up this claim IEC replies in the Claimants' Second Post-Hearing Brief as follows:

"[...] BHGE argues that Mr. Helsen's 'OPEX incurred during delay' category 'has little to do with 'hiring security staff for the Rumuji site repair and maintenance staff, medical staff, as well as accounting, HR and other back office staff.' "

But Mr. Helsen never claimed that the wasted OPEX was incurred solely for those purposes. Rather, he was providing examples to the Tribunal. In his first witness statement, Mr. Helsen explained that because Claimants' only activity was the LNG business, all the operational costs incurred by Claimants related to the LNG project.

*And because BHGE is years late in delivering Trains 1 and 2, all of those expenses incurred by Claimants have been unnecessary and wasted. If BHGE had told Claimants that the Trains would not be ready for delivery until mid-2020, Claimants would have had no reason to incur any OPEX before late 2019."*⁷⁷⁹

822. And with regard to GEOG's charge that the quantum is not sufficiently supported by documents, IEC submits the following:

"[...] Mr. Helsen explained in his first witness statement how he calculated the wasted OPEX. BHGE then had the opportunity to seek documents during the document

⁷⁷⁴ Columns K and L in the second tab of the Excel file in appendix Z to Exhibit CWS-10.

⁷⁷⁵ SoC, ¶404.

⁷⁷⁶ See Exhibit CWS-5, ¶¶64-65.

⁷⁷⁷ SoR, ¶¶549, 551; see also Cs' PHB1, ¶121.

⁷⁷⁸ Exhibit CWS-10, ¶70.

⁷⁷⁹ Cs' PHB2, ¶¶102-104.

exchange phase but did not do so. BHGE cannot now complain about the result of that failure.

*But even more, responding to BHGE's criticisms in its SoD, Mr. Helsen's second witness statement provides the support BHGE claims is missing. Mr. Helsen provided updated calculations, along with excerpts from the relevant pages of Claimants' Group Accounts and an itemized list of OPEX from 2019. Mr. Helsen further explained that those Group Accounts and financial records were reviewed by KPMG and given clean audit opinions."*⁷⁸⁰

823. As mentioned above,⁷⁸¹ in the Submission on Fees and Costs of 29 May 2020, IEC revised the amount of this damages item to USD 66,108,090.

(b) GEOG's position

824. In the Respondents' First Post-Hearing Brief, GEOG criticizes that "[t]he item 'OPEX incurred during delay' (\$75 million) has little to do with 'hiring security staff for the Rumuji site, repair and maintenance staff, medical staff, as well as accounting, HR and other back office staff' "⁷⁸² and it points at the following items which it considers objectionable:

- "i. Legal fees to arbitration counsel (\$4.4 million);*
- ii. Consulting fees to tax advisors (\$63,000);*
- iii. Travel expenses (\$105,000);*
- iv. Insurance costs incurred by Greenville for terrorism and political violence (Naira 102 million);*
- v. Advertisement, publications and promotions costs incurred by Greenville (Naira 57 million);*
- vi. Depreciation of Greenville's equipment already included in the claim for Loss of Useful Life (approximately Naira 250 million);*
- vii. Legal fees paid by Greenville (Naira 405 million) and other professional fees (Naira 298 million);*
- viii. Recruitment fees incurred by Greenville (Naira 1.1 million);*

⁷⁸⁰ Cs' PHB2, ¶¶105-106.

⁷⁸¹ ¶308.

⁷⁸² Rs' PHB1, ¶156.

ix. Travelling and accommodations costs for the sales personnel incurred by Greenville (Naira 319 million); and

x. \$1 million of costs incurred by West African Electric.”⁷⁸³

825. Moreover, GEOG criticizes the lack of documentary support for the damages items that make up this claim.⁷⁸⁴

(c) Arbitral Tribunal’s analysis

826. This claim is for indirect damages. If IEC were claiming for the prolongation costs for the protracted installation and commissioning of the Trains, this might be considered to be direct damages. However, Mr Helsen explains that “[t]hese operating expenses are mainly costs of personnel that we had to employ to be ready for operations (such as a commercial team, security staff, repair and maintenance staff).” And: “In the normal circumstances such costs would have been compensated by operating income of the sale of LNG which, due to the delay in commissioning of the plants, did not happen.”⁷⁸⁵ It is thus clear that IEC is not claiming for the increased costs of installation and commissioning.

827. In addition, the claim is in substance a claim for loss of revenues, which is excluded by Clause 19.3 of the Equipment Contract. IEC’s description of this damages item as “operational expenses that should have been offset by positive cashflow beginning January 2016”⁷⁸⁶ and Mr Helsen’s similar portrayal as “costs [that] would have been compensated by operating income of the sale of LNG”⁷⁸⁷ are most telling. These operational expenses were not caused by GEOG’s delay. They are sunk costs, i.e., they would have been incurred in any event, regardless of whether GEOG performed its obligations on time. What in fact constitutes the damages is the absence of revenue to offset those expenses.

828. The Arbitral Tribunal notes that, even if one were to consider that this claim is not excluded, IEC has not discharged its burden of proof as regards the quantum. The basis for this 66 million claim is meagre at best. Mr Helsen explains that he calculated these damages as the “accumulated deficit [...] [as it] relates to the delay period” as shown in the “Group accounts,” the rationale being that the group’s only activity is the LNG project and, hence, all costs relate to delay in operation of the Trains.⁷⁸⁸ This approach has several problems:

⁷⁸³ Rs’ PHB1, ¶156; see also Rs’ PHB2, ¶77(ii).

⁷⁸⁴ Rs’ PHB1, ¶157; see also Rs’ PHB2, ¶77(ii).

⁷⁸⁵ Exhibit CWS-5, ¶64.

⁷⁸⁶ SoC, ¶404.

⁷⁸⁷ Exhibit CWS-5, ¶64.

⁷⁸⁸ Exhibit CWS-5, ¶64.

- (i) It includes costs by three entities: IEC, Greenville and West Africa Electric NV.
- (ii) The claim considers the operating expenses in the period from 2014 through 2019, i.e. the complete period between the due Delivery Date and the commencement of operation, to be wasted, i.e. 6 years. However, Mr Helsen himself considers that the operation was delayed by under 4 years,⁷⁸⁹ because, but for GEOG's delay, IEC would not have commenced operation of the Trains until January 2016, (according to Mr Helsen)⁷⁹⁰ or June 2016 (according to Mr Lapuerta).⁷⁹¹ Hence, the operating expenses of less than four years were wasted, out of the six years assumed by Mr Helsen.
- (iii) The costs in the year 2019 (the only year for which Mr Helsen provided a breakdown)⁷⁹² include items like "*Charitable Contributions*," "*Business Facilitation Cost*" and "*Legal Fees*." GEOG claims that these legal fees, in an amount of USD 4,447,956.14 are "*legal fees to arbitration counsel*,"⁷⁹³ which seems plausible. Indeed, IEC acknowledged in the Claimants' Submission on Fees and Costs of 29 May 2020 that "*Mr. Helsen's 'OPEX incurred during delay' category of damages included \$8,976,667.67 in 2018 and 2019 fees and expenses*."⁷⁹⁴ While this issue seems to thereby have been solved, it illustrates the reasons for the Arbitral Tribunal's unwillingness to consider awarding a USD 66 million claim on the basis of a black-box calculation performed by a non-independent witness.
- (iv) Otherwise, the costs are supported only by a most basic summary by Mr Helsen⁷⁹⁵ and extracts of the consolidated financial statements for 2014-2018.⁷⁹⁶ IEC's argument that "*BHGE then had the opportunity to seek documents during the document exchange phase but did not do so*"⁷⁹⁷ does not relieve it from its burden of proof.
- (v) The costs include depreciation of Greenville's equipment already included in loss of useful life claim.⁷⁹⁸

⁷⁸⁹ Exhibit CWS-10, ¶58.

⁷⁹⁰ See Exhibit CWS-5, ¶35; see also Exhibit CER-4, ¶92 and Exhibit C-682.

⁷⁹¹ See Exhibit CER-4, ¶91.

⁷⁹² Appendix CC to Exhibit CWS-10.

⁷⁹³ See Rs' PHB2, p. 34, Row 9, 1st roadblock.

⁷⁹⁴ Claimants' Submission on Fees and Costs of 29 May 2020, ¶18.

⁷⁹⁵ Appendix AA to Exhibit CWS-10.

⁷⁹⁶ Appendix BB to Exhibit CWS-10.

⁷⁹⁷ Cs' PHB2, ¶105.

⁷⁹⁸ See Rs' PHB2, p. 34, Row 9, 1st roadblock.

(4) Loss of financial income during delay

(a) IEC's position

829. In the Statement of Claim, IEC claims USD 33,954,562.62 in compensation for the loss of financial income during the delay. It explains that *"IEC has invested funds in this project with expectation of return based on GE's promises"*⁷⁹⁹ and that *"[h]ad they not done so, the US\$500 million invested (or held in cash to be ready for investment) would have earned a return."*⁸⁰⁰ IEC explains that the amount claimed is the result of applying *"a conservative rate of US Libor over 1 year"* to the invested amount.⁸⁰¹
830. In the Statement of Reply, IEC updated this figure⁸⁰² to USD 44,796,281.94, by including the year 2019 up to 15 November, *"and by excluding all financial income and charges."*⁸⁰³

(b) GEOG's position

831. In the Respondents' First Post-Hearing Brief, GEOG argues as follows with respect to this claim:
- "The so-called claim for 'Loss of financial income during delay' (\$44.8 million) deals with the damage allegedly suffered by IEC's shareholders (!) for the delay in starting up the Trains. For the sake of clarity, this is not the Respondents' interpretation of the claim; this is exactly how the claim was presented by Mr. Helsen in his First Witness Statement and how the claim was explained by Mr. Helsen at the Hearing. Again, the Respondents have nothing to add in response other than to emphasize the fact that IEC's shareholders are not parties to the arbitration, and their losses are outside the power of the Tribunal to award."*⁸⁰⁴

(c) Arbitral Tribunal's analysis

832. The claim for loss of financial income during the delay is for indirect damages and it is also specifically excluded by Clause 19.3 of the Equipment Contract for being a claim for loss of profit or revenues.
833. The Arbitral Tribunal notes that, even if one were to consider that this claim is not excluded, IEC has not discharged its burden of proof that it has in fact incurred these damages. The Arbitral

⁷⁹⁹ SoC, ¶405.

⁸⁰⁰ SoC, ¶405.

⁸⁰¹ SoC, ¶405.

⁸⁰² SoR, ¶¶549, 551; see also Cs' PHB1, ¶122.

⁸⁰³ Exhibit CWS-10, ¶81.

⁸⁰⁴ Rs' PHB1, ¶158.

Tribunal would not be disposed to awarding a USD 45 million claim on the basis of a mere calculation performed by a non-independent witness.

(5) Additional repair and replacement costs due to expiration of warranty periods

(a) IEC's position

834. In the Statement of Claim, IEC claims USD 17,639.347.26 as compensation for the loss of warranty value of equipment, including the Trains delivered by GEOG.⁸⁰⁵ IEC explains that it *"determined the relevant warranty period for each piece of equipment and whether that period had expired"* and that it *"then considered the standard repair and spare part costs during operation of the equipment in question during the warranty period [which] must now be borne by Claimants."*⁸⁰⁶

835. To GEOG's criticism that *"the impact loss of warranty [...] has been randomly set as equal to 3% of the revenues"*⁸⁰⁷ IEC replies in the Claimants' Second Post-Hearing Brief that *"[f]ar from being random, Mr. Helsen gave detailed reasons for the 3% rate, based on a benchmarking analysis of warranty percentages in the annual accounts of various manufacturers."*⁸⁰⁸

(b) GEOG's position

836. In the Respondents' First Post-Hearing Brief GEOG puts forward the following objection to this claim:

*"Similarly, the claim 'Impact loss of warranty' (\$17.6 million) is not only unsupported by documents (the amount has been randomly set as equal to 3% of the revenues), it is also based on a clear misunderstanding between the warranty rights of either IEC or Greenville (since it is not clear) and the maintenance and repair costs that were avoided due to the delay. A quantum expert for direct damages, had one been engaged, would have explained to Mr. Helsen that avoided costs should be counted as savings, and deducted."*⁸⁰⁹

837. In the Respondents' Second Post-Hearing Brief, GEOG further argues that warranties generally do not cover ordinary repair and maintenance costs and that there seems to be an overlap

⁸⁰⁵ SoC, ¶407; see also Cs' PHB1, ¶124.

⁸⁰⁶ SoC, ¶407.

⁸⁰⁷ Rs' PHB1, ¶159.

⁸⁰⁸ Cs' PHB2, ¶108.

⁸⁰⁹ Rs' PHB1, ¶159.

between this claim and the claim for wasted operational expenses, which includes the cost of repair and maintenance teams.⁸¹⁰

(c) Arbitral Tribunal's analysis

838. The claim for additional repair and replacement costs due to the expiration of warranty periods refers to the expiration of warranties for both,
- (i) the Trains delivered by GEOG, and
 - (ii) other third-party delivered equipment (including LNG delivery trucks and trailers, LNG storage tanks and regasification equipment for use at customer sites, fueling stations and truck stops).⁸¹¹
839. With regard to the expiry of the warranty for the Trains delivered by GEOG, IEC cannot assert vis-à-vis GEOG that the expiry of GEOG's warranty constitutes damages which GEOG is duty-bound to compensate. The mere application of valid contractual provisions agreed between two parties can logically never give rise to damages for which one party must compensate the other.
840. In addition, the Arbitral Tribunal notes that Mr Helsen's calculation assumes that the value of the warranty during a given period is equal to the "*repair and maintenance costs*."⁸¹² However, this equation is incorrect: GEOG's warranty under Clause 17 of the Equipment Contract does not cover either maintenance nor repairs that become necessary as a result of wear and tear.⁸¹³
841. The claims for expiry of the warranty of other third-party delivered equipment are claims for indirect damages and, as such, they are not covered by Clause 6.6(ii) or Clause 17.4(i) but they are in fact excluded by Clause 19.3 of the Equipment Contract.
842. The Arbitral Tribunal notes that, even if one were to consider that these claims are not excluded, IEC has not discharged its burden of proof that it has in fact incurred these damages. Mr Helsen's calculation is not supported by documents and is based merely on assumptions which remain mostly unsupported.⁸¹⁴

⁸¹⁰ Rs' PHB2, ¶77(iii).

⁸¹¹ Exhibit CWS-5, ¶70.

⁸¹² Exhibit CWS-5, ¶71, third bullet point.

⁸¹³ See Clause 17.5 of the Equipment Contract.

⁸¹⁴ Appendix DD to Exhibit CWS-10.

(6) Cash flow shortfall

(a) IEC's position

843. In the Statement of Claim, IEC claims USD 591 million in damages as calculated by its quantum expert, Mr Lapuerta.⁸¹⁵ It explains in this regard:

*"Carlos Lapuerta, a well-respected economist and expert on damages, has developed a sophisticated cash flow model that measures what Claimants are expected to earn today and what Claimants would have earned 'but for' GE's breaches. As detailed in Mr. Lapuerta's report, Claimants have suffered US\$ 591 million in damages from GE's misconduct. Mr. Lapuerta's model is conservative. His analysis is rooted in independent analysis of the market, the pricing inputs, inflationary impacts, and exchange rates. His analysis is also consistent with the cash flow models that Claimants have been using to support their investments since before they contracted with GE. The models on which Mr. Lapuerta started his analysis were not created for the purposes of this arbitration: they have been the foundation for IEC's investment of more than US\$500 million in capital since 2014. They are also the reason that IEC elected to spend almost 2x as much for GE plants so that they could be in place six to nine months earlier than plants procured from GE's competitors."*⁸¹⁶

844. In the Statement of Reply, IEC updated this figure⁸¹⁷ to USD 681 million as per Mr Lapuerta's second expert report.⁸¹⁸

845. The figure was again updated at the Hearing to USD 700 million.⁸¹⁹

846. In the Claimant's First Post-Hearing Brief, IEC posits:

*"Although loose language has been used throughout the written submissions, Mr. Lapuerta's analysis is not a lost profit analysis. Rather, his analysis calculates the difference in the present value of cash flows that are delayed due to BHGE's breaches."*⁸²⁰

⁸¹⁵ Exhibit CER-4.

⁸¹⁶ SoC, ¶¶395; see also SoC, ¶¶393-394; Cs' PHB1, ¶¶100-114.

⁸¹⁷ SoR, ¶¶549-550.

⁸¹⁸ Exhibit CER-10.

⁸¹⁹ Tr. Day 10, 10:11; Mr Lapuerta's presentation "Damages to IEC and Greenville from the Delay of Trains 1 and 2," used at the Hearing on 20 December 2019, p. 6; see also Cs' PHB1, ¶100.

⁸²⁰ Cs' PHB1, ¶110.

(b) GEOG's position

847. In the Statement of Defense, GEOG criticizes Mr Lapuerta's calculation as unrealistic and speculative.⁸²¹
848. In the Respondents' First Post-Hearing Brief, GEOG points out that "*the \$700 million quantified by Mr. Lapuerta includes both direct and consequential damages*" and that there is a "*lack of any clarity on how the cash flow expectations calculated in Mr. Lapuerta's two expert reports subsume the 'direct damages' purportedly quantified by the Claimants' factual witness Mr. Helsen.*"⁸²²

(c) Arbitral Tribunal's analysis

849. In the Statement of Claim, IEC seems to acknowledge that the damages calculated by Mr Lapuerta include damages excluded under the Equipment Contract. The presentation of Mr Lapuerta's damages calculation is made in the section titled "*Claimants Are Entitled to Recover Their Full Loss As A Result of GE's Misconduct*"⁸²³ and introduced with the statement "*As a result of GE's gross negligence and willful misconduct, Claimants are entitled to recover all direct and consequential damages, including lost profits.*"⁸²⁴ This is juxtaposed to the subsequent section in which it is argued that "[i]f for any reason the Tribunal does not award the damages recognized in Mr. Lapuerta's report Claimants are entitled to recover direct damages."⁸²⁵
850. This same juxtaposition of the damages calculated by Mr Lapuerta as lost profits and those described by Mr Helsen as direct damages can also be found in the Statement of Reply.⁸²⁶
851. However, IEC suggested at the Additional Hearing that Clause 19.3 of the Equipment Contract does not exclude the damages calculated by Mr Lapuerta because "*they did not chose in this clause to say 'loss of cash flow.'*"⁸²⁷
852. In the same vein, in the Claimant's First Post-Hearing Brief, IEC posits that "*Mr. Lapuerta's analysis is not a lost profit analysis*" but rather a "*calculat[ion of] the difference in the present value of cash flows that are delayed due to BHGE's breaches.*"⁸²⁸
853. IEC's late attempt to find a difference between a lost profit analysis and a cash flow shortfall analysis must fail. What the exercise performed by Mr Lapuerta substantially consists in has

⁸²¹ SoD, ¶¶200-201; see also Rs' PHB1, ¶¶137-144.

⁸²² Rs' PHB1, ¶136.

⁸²³ SoC, §IV.B.

⁸²⁴ SoC, ¶392; further, IEC repeatedly argues that it may recover its lost profits: SoC, ¶¶393-394.

⁸²⁵ SoC, ¶396.

⁸²⁶ SoR, §XI.B and §X.C.

⁸²⁷ Tr. Milan, 78:19-20.

⁸²⁸ Rs' PHB1, ¶110.

been very well described by IEC as “a *sophisticated cash flow model that measures what Claimants are expected to earn today and what Claimants would have earned ‘but for’ GE’s breaches.*”⁸²⁹ That is a perfect description of a loss of profits calculation.

854. Indeed, the damages calculation by Mr Lapuerta, although it incorporates expenses into the model that may qualify as direct damages,⁸³⁰ is essentially a loss of profits calculation.
855. The Arbitral Tribunal thus finds that this claim is not a claim for direct damages and that it is further excluded by Clause 19.3 of the Equipment Contract, for being a claim for loss of profits.

(7) Conclusion

856. Except for IEC’s claim for the loss of auxiliary products and containers for drying process, which is a claim for direct damages and is to be awarded in full, all other claims for damages associated with delayed operation are to be dismissed.

C. Fraud claims

1. IEC’ position

857. IEC claims USD 158,000,000 in damages on the grounds that GEOG fraudulently induced it to enter into the Equipment Contract and the Services agreement and that it committed fraud in misrepresenting its abilities during performance of the Equipment Contract.⁸³¹
858. The factual allegations underlying these claims are essentially the same on which IEC bases its allegation of willful misconduct to argue that the limitation of liability provisions are not to be applied, namely: (i) GEOG’s dishonesty regarding the delivery period and (ii) misrepresentations during project execution. These allegations have been described above.⁸³²
859. IEC argues that its fraud claims and breach-of-contract claims are not duplicative as the fraud damages are distinct from and independent of the breach-of-contract damages.⁸³³

2. GEOG’ position

860. With respect to fraudulent inducement, GEOG argues in the Statement of Defence that IEC failed to prove any misrepresentation or material omission with respect to GEOG’s technical

⁸²⁹ SoC, ¶¶395.

⁸³⁰ Rs’ PHB2, ¶¶25; Tr. Day 10, 112:17-19 and 114:1; Sheet A2 of Exhibit C-1176; Tr. Day 10, 114:2-18, 121:10-14.

⁸³¹ SoC, ¶¶343-382; 408-413; SoR, ¶¶5, 4th bullet, ¶¶506-523; Cs’ PHB1, ¶¶186-194; Cs’ PHB2, ¶¶135-139.

⁸³² ¶¶738(i) and 738(ii).

⁸³³ SoC, ¶348, footnote 409; ¶375; SoR, ¶¶5, fourth bullet point, 518, 523.

capabilities or intention of satisfying its contractual obligations,⁸³⁴ and that it also failed to demonstrate justifiable reliance.⁸³⁵

861. As for post-contract fraudulent misrepresentation, GEOG objects that IEC makes vague allegations but “fail[s] to provide any evidence of false post-contract promises.”⁸³⁶

862. In addition, GEOG asserts that IEC’s fraud claims are to be rejected as duplicative of its breach of contract claims.⁸³⁷

3. Arbitral Tribunal’s analysis

863. IEC’s claim of fraudulent inducement is based essentially on the same circumstances as its allegation –aimed at establishing willful misconduct– that GEOG knew from the outset that it would not be able to fulfill the Delivery Dates. This allegation has already been addressed and rejected above.⁸³⁸ For the same reasons, IEC’s claim of fraudulent inducement is dismissed.

864. With regard to IEC’s claim of fraud during performance, the Arbitral Tribunal finds that IEC has failed to point at specific misrepresentations by GEOG about its abilities, and to prove that IEC chose not to terminate the Equipment Contract as a consequence of its reliance on such misrepresentations. The allegation that “GE/BHGE continued to conceal its lack of capacity and technical inability to complete performance on time”⁸³⁹ is too vague to serve as the basis of a finding of fraud. The only somewhat specific misrepresentation invoked by IEC is that GEOG “failed to disclose their knowledge of the cold box redesign and defects until late 2016.”⁸⁴⁰ The Arbitral Tribunal has already examined this issue and it has concluded that the process design was not defective.⁸⁴¹

865. Consequently, IEC’s fraud claims are dismissed.

D. Claims for declaratory relief

866. The Arbitral Tribunal has determined that GEOG breached the Equipment Contract:

(i) It failed to deliver the Trains by their respective Delay Limit Date.⁸⁴²

⁸³⁴ SoD, ¶¶182(i), 183-189.

⁸³⁵ SoD, ¶¶182(ii), 190-193.

⁸³⁶ SoD, ¶172.

⁸³⁷ SoD, ¶¶173, 194; Rs’ PHB1, ¶75.

⁸³⁸ §X.B.3.d(3)(a)i.

⁸³⁹ SoR, ¶522.

⁸⁴⁰ SoR, ¶519.

⁸⁴¹ See above, §X.B.2.b(1)(c)ii.

⁸⁴² See above, ¶436.

- (ii) It delivered Trains with, among others, (i) multiple defects (incomplete and piecemeal delivery of the modules),⁸⁴³ (ii) a defective soft-starter solution,⁸⁴⁴ (iii) defective pipe supports⁸⁴⁵ and (iv) defective MRC motor cables,⁸⁴⁶ and it failed to remedy those defects within a reasonable time.⁸⁴⁷
867. Therefore, the declaration sought by IEC that GEOG has breached the Equipment Contract is to be granted.⁸⁴⁸
868. In support of its requests for declarations that GE Nigeria has breached the Services Agreement⁸⁴⁹ and that GEOG has breached the Guarantee⁸⁵⁰ IEC alleges the following:
- "The personnel GE provided to perform the promised services were neither competent nor knowledgeable about LNG production plants, particularly the set-up and installation of the Trains. GE's on-site personnel were not helpful in resolving the issues that Claimants confronted during the set-up and installation of the Trains, especially the issues that arose due to GE's failure to provide fully-modularized Trains"*⁸⁵¹
869. The issue was given little attention by IEC (who only seeks declaratory relief in this regard). Mr Srinivasanand has voiced complaints about the GE Nigeria personnel not being helpful.⁸⁵² However, the Arbitral Tribunal finds that this claim is not sufficiently substantiated.
870. Consequently, IEC's requests for declarations that GE Nigeria has breached the Services Agreement and that GEOG has breached the Guarantee are dismissed.
871. The Arbitral Tribunal has determined that there is no sufficient evidence for a finding that GEOG fraudulently induced IEC to enter into the Equipment Contract or that it defrauded IEC during the performance of the said contract. Thus, IEC's claim for a declarations in this respect are dismissed.⁸⁵³
872. IEC's request for declarations of liability for future, unquantified, additional damages are dismissed.⁸⁵⁴ The Arbitral Tribunal finds that its mandate, as per the arbitration agreements and

⁸⁴³ See above, §X.B.3.a(3)(b)i.

⁸⁴⁴ See above, §X.B.2.d(3)(a).

⁸⁴⁵ See above, §X.B.3.a(3)(c)ii.

⁸⁴⁶ See above, §X.B.3.a(3)(c)iii.

⁸⁴⁷ See above, ¶¶576, 718(i), 718(ii), 684.

⁸⁴⁸ Cs' PHB1, ¶235(c); the same request with regard to the BHGE Entities is already rejected for lack of jurisdiction.

⁸⁴⁹ Cs' PHB1, ¶235(d).

⁸⁵⁰ Cs' PHB1, ¶235(e); the same request with regard to the BHGE Entities is already rejected for lack of jurisdiction.

⁸⁵¹ SoC, ¶342; see also ¶¶292-296; SoR, ¶¶45, 220; Cs' PHB1, ¶¶90-91.

⁸⁵² Exhibit CWS-2, ¶¶3.1-3.5, 6.1-6.4.

⁸⁵³ Cs' PHB1, ¶235(l) and (m); the same requests with regard to the BHGE Entities and with regard to Greenville are already rejected for lack of jurisdiction.

⁸⁵⁴ Cs' PHB1, ¶235(j) and (k).

the Rules, is to resolve actual disputes based on proven past events. IEC has no legitimate interest in generic declarations regarding possible future events.

XI. COUNTERCLAIMANTS' COUNTERCLAIMS

A. Equipment contract price

1. GEOG's position

873. In the Statement of Claim, GEOG claims USD 4,750,000 as payment of the contract price for the milestone of Mechanical Completion of Train 1, which it claims was completed on 19 May 2018, when the last of the 18 sub-systems included in GEOG's Scope of Supply was certified as completed by IEC.⁸⁵⁵

874. With respect to the activities carried out by GEOG on Train 1 after May 2018, GEOG provides the following explanation:

*"It must be highlighted that a majority of the recent activities carried out by GEOG on its equipment on site are relatively normal issues that arise during commissioning. The reason they are being addressed now, three years after delivery of Train 1, is not related to any failure in GEOG's supply, but purely because of the fact that due to IEC's continuous failings the Rumuji Plant was not ready to start these commissioning activities until just a few months ago."*⁸⁵⁶

875. In the Statement of Defense, GEOG revised its claim for payment of the Equipment Contract price for a total of USD 20,362,378, which is broken down as follows:⁸⁵⁷

- (i) Spare Parts: USD 412,378.
- (ii) Train 2 Ready to Ship: USD 950,000.
- (iii) Mechanical Completion of Trains 1 and 2: USD 9,500,000.
- (iv) Taking Over of Trains 1 and 2: USD 9,500,000.

876. On the spare parts, GEOG submits that *"IEC issued two separate purchase orders for operating two year spares and commissioning/startup spares in December 2016, for the amount of \$3,500,000"*⁸⁵⁸ and that *"[t]he amount of \$412,378 remains outstanding under such purchase orders."*⁸⁵⁹

⁸⁵⁵ SoCC, ¶¶169-170; see also SoCC, ¶¶126-128, 131-132.

⁸⁵⁶ SoCC, ¶133.

⁸⁵⁷ SoD, ¶¶216, 233.

⁸⁵⁸ SoD, ¶227.

⁸⁵⁹ SoD, ¶228; see also Rs' PHB1, ¶23.

877. With respect to the Mechanical Completion milestone for Train 1, GEOG repeats that with IEC certifying the 18 sub-systems of Train 1 as complete, *“there can be no doubt that IEC approved the Mechanical Completion of Train 1.”*⁸⁶⁰ In the alternative, it argues that, as per the definition of Mechanical Completion in Clause 1 of the Equipment Contract,⁸⁶¹ Mechanical Completion for Trains 1 is deemed to have been achieved on 24 July 2016,⁸⁶² because GEOG was prevented from achieving Mechanical Completion for reasons beyond its control.⁸⁶³ In particular, GEOG asserts that,

“[...] IEC prevented GEOG from achieving Mechanical Completion by:

- i. altering and removing parts and systems that had been certified as complete by IEC for use on IEC’s Train 3, thereby destroying the traceability of materials and workmanship and undermining GEOG’s ability to achieve a Mechanical Completion certificate;*
- ii. failing to preserve materials following delivery to site, including but not limited to a failure to properly store, install and maintain the Trains;*
- iii. refusing to acknowledge that the provision of MRC cables and VFD is not within GEOG’s scope of supply under the Equipment Contract;*
- iv. preventing GEOG from completing any make good activity needed to rectify warranty defects associated with the piping supports;*
- v. refusing to provide the needed inputs associated with the BOPs out of GEOG scope of supply to complete the flare network design review; and*
- vi. denying GEOG to perform a 3D laser scanning of the plant at GEOG costs without any meaningful reason.”*⁸⁶⁴

878. With regard to Train 2, GEOG argues that *“the achievement of Train 2 Mechanical Completion is demonstrated by the 17 certificates signed for the completion of the relevant subsystems”* and that *“GEOG would have reached the mechanical completion of the last outstanding certificate had IEC not interfered ‘and significantly aggravated GEOG Scope of Work by removing*

⁸⁶⁰ SoD, ¶219.

⁸⁶¹ *“[...] In the event Seller is prevented from Mechanical Completion due to reasons beyond its control, Mechanical Completion shall mean five (5) months after the Delivery Date.”*

⁸⁶² SoD, ¶223.

⁸⁶³ SoD, ¶220.

⁸⁶⁴ SoD, ¶220.

equipment and invalidating those system mechanical completion certificates’.”⁸⁶⁵ Thus, GEOG posits that Mechanical Completion of Train 2 is to be deemed achieved as of 28 August 2016.⁸⁶⁶

879. Finally, GEOG argues:

“Further or in the alternative, IEC’s refusal to acknowledge and compensate GEOG for Mechanical Completion of Train 1 and 2 is a breach of IEC’s obligation under Clause 1.7 of the Equipment Contract to act reasonably and fairly, in circumstances where:

- i. IEC has certified completion of all 18 sub-systems of Train 1;*
- ii. since certifying the sub-systems, IEC has (without notice to and permission from GEOG) removed and altered certain parts of Train 1 and Train 2; and*
- iii. the contractual definition of Mechanical Completion, as set forth in clause 1 of the Equipment Contract, does not require the submission of specific documentation (particularly where such documentation would not prevent the safe operation of the Trains).”⁸⁶⁷*

880. With respect to the Taking Over milestone, GEOG also relies on the definition of the term in Clause 1 of the Equipment Contract,⁸⁶⁸ to argue that the milestone should be deemed achieved for the same reasons as the Mechanical Completion milestone.⁸⁶⁹

881. GEOG’s position on the MRC motor cables, the piping supports (stress tests) and the VFD has been described above.⁸⁷⁰ With regard to the remaining two issues which IEC invokes as an impediment to Mechanical Completion, GEOG submits the following:

(i) Flare design:

“[...] although it is true that the slope of some segments of the flare system do not comply with the design standard, this does ‘not require remedial work’ and IEC could have accepted the solution proposed by GEOG.”⁸⁷¹

⁸⁶⁵ SoD, ¶221.

⁸⁶⁶ SoD, ¶223.

⁸⁶⁷ SoD, ¶224.

⁸⁶⁸ *“In the event Seller is prevented from meeting the conditions set out in Clause 26.1 due to reasons beyond Seller’s control, Taking Over shall mean eight (8) months after the Delivery Date.”*

⁸⁶⁹ SoD, ¶¶225-226; see also Rs’ PHB1, ¶¶26-27.

⁸⁷⁰ ¶¶616, 618(MRC motor cables), ¶¶617, 619 (piping supports), ¶¶558-561 (VFD).

⁸⁷¹ SoD, ¶63(iii); in the SoCC GEOG has asserted: *“Moreover, when GEOG reviewed the isometrics of the flare lines to verify whether the slope of the piping was correct, GEOG found that the poor performance of IEC’s mechanical contractor in building the flare line resulted in non-compliance with GEOG’s design. As a result, the pipes contain an inverted slope creating a low pocket, in which liquids that are supposed to flow freely in the pipe can accumulate in the low points of the flare piping due to condensation of the vapor. This can lead to a slug of liquid being sent to the flare while vapor is being released and can potentially cause ‘burning rain’, excess back pressure, and possible large reaction forces in the header.”* (SoCC, ¶155).

(ii) Pressure relief valves ("PRVs"):

GEOG maintains that the problem is to be fixed by fitting back flow preventers to the affected PRVs.⁸⁷² It further explains that a back flow preventer is *"a devi[c]e used during maintenance to isolate the valve from the rest of the plant and allow the maintenance of it"*.⁸⁷³ According to the GEOG, this accessory *"does not affect the functionality of the valve during operation."*⁸⁷⁴

882. In the Respondents' First Post-Hearing Brief, GEOG submits the following two reasons for having been prevented by IEC from achieving Mechanical Completion, in addition to those set forth in paragraph 220 of the Statement of Defense:⁸⁷⁵ *"(i) IEC's failure to preserve the equipment following delivery on site in 2015 and 2016"* and *"(ii) IEC's cannibalization of Train 2 throughout 2018 and 2019."*⁸⁷⁶

883. Moreover, based on Mr Van den Broeke's testimony at the Hearing that he thought IEC would be completing the Trains *"in the next two to three months,"*⁸⁷⁷ GEOG argues that Mechanical Completion was reached by the time the Respondents' First Post-Hearing Brief was filed, i.e. in March 2020.⁸⁷⁸

884. With regard to the flare design issue, GEOG asserts the following:

*"The Parties' experts have offered very different opinions on this topic. GEOG's expert believes there is no issue or defect with the flare as designed and built. IEC's expert disagrees. Both sides' experts do agree, however, that whatever issue may potentially have existed was fixed some time ago during the construction of the flare."*⁸⁷⁹

2. IEC's position

885. In the Statement of Claim, IEC objects to GEOG's contention that Train 1 is mechanically complete. It points out that the Equipment Contract defines Mechanical Completion as the Train being *"mechanically, electrically and structurally installed on Site and connected, in accordance with the Technical Documentation, but excluding ... (ii) any minor items which do not materially affect the operation or safety of the Plant,"*⁸⁸⁰ and that this definition has not been met.⁸⁸¹

⁸⁷² Attachment to the Respondents' answer of 21 August 2019 to the Claimants application for interim relief, p. 3.

⁸⁷³ Attachment to the Respondents' answer of 21 August 2019 to the Claimants application for interim relief, p. 3.

⁸⁷⁴ Attachment to the Respondents' answer of 21 August 2019 to the Claimants application for interim relief, p. 3.

⁸⁷⁵ See above, ¶877.

⁸⁷⁶ Rs' PHB1, ¶25.

⁸⁷⁷ Tr. Day 2, 106:23.

⁸⁷⁸ Rs' PHB1, ¶¶2, 25; see also Rs' PHB2, ¶103.

⁸⁷⁹ Rs' PHB1, ¶121.

⁸⁸⁰ Equipment Contract, Clause 1.

⁸⁸¹ SoC, ¶428.

886. IEC argues that the “[t]he fact that GE was able to obtain certifications for the 18 sub-systems would not mean that the Plant was mechanically complete if, in fact, there are defects that do materially affect its operation and safety.”⁸⁸²

887. And it points at five such defects which impede Mechanical Completion:

“[...] (i) the cables to the MR Compressor (‘MRC’) motors overheat and ‘are not suitable’; (ii) there are at least 37 pipeline systems in each train (74 in total) that are defective and require ‘make good’ actions [that] must be implemented’; (iii) GE’s system to start up the MRC motors does not work and, therefore, the Trains are inoperable until GE provides the required VFD solution; (iv) there are 22 PRVs that ‘have back-pressure issues [and] requ[ire] a mitigation action’; (v) due to GE’s design of the connection points for the pipeline between the pipe rack and the flare stacks ‘[t]here are pockets (zero-slope traits) in the flare header and piping between PRVs and flare header that must be eliminated.’ ”⁸⁸³

888. IEC’s position on the MRC motor cables, the piping supports (stress tests) and the VFD has been described above.⁸⁸⁴ With regard to the remaining two issues, IEC alleges the following:

(i) Flare design:

“GE engineering [...] was defective and design of the piping to the flares creates pockets without slope or sufficient slope. As a result, a significant risk exists that liquid traveling to the flare will collect in the pipe and hammering of liquid (i.e., a rapid change in the momentum of the liquid due to a pressure wave) may occur.

This defect presents a serious safety issue. As the Exponent Expert Report explains, ‘The purpose of these industry consensus specifications is to protect against dangerous phenomena such as ‘burning rain,’ liquid hammering, and back pressure build up in flare systems. ... Burning rain can injure workers, damage equipment, and ignite fires Liquid hammer [can] rupture the piping and/or flare tip.... Increased back pressure can cause PRVs to malfunction [which may cause] upstream equipment [to] be damaged or even rupture.’

[...]

Until GE makes the required modifications for its defect, the Trains cannot be operational.”⁸⁸⁵

⁸⁸² SoC, ¶¶430; see also SoR, ¶¶554.

⁸⁸³ SoC, ¶¶429; see also SoR, ¶¶553, where IEC explains that these issues also affect Train 2.

⁸⁸⁴ ¶¶600-602 (MRC motor cables), ¶¶603-608 (piping supports), ¶¶550-557 (VFD).

⁸⁸⁵ SoC, ¶¶185-189; see also SoR, ¶¶152-189; Cs’ PHB1, ¶¶82-85.

(ii) PRVs:

*"The valve issues are still not over. During the February 2019 meeting in Rumuji, GE conceded that 22 PRVs need to be retrofitted with back pressure relief devices that were not in the engineered design. Once installed, GE will then have to calibrate and recertify each of these PRVs. GE has not yet begun any of this work."*⁸⁸⁶

889. In the Statement of Reply, IEC addresses GEOG's arguments that IEC prevented it from achieving Mechanical Completion as follows:

(i) IEC's cannibalization:

*"[...] as Claimants previously told GE/BHGE, 'nothing was removed from Train 1' at all, much less anything that could prevent GE/BHGE from achieving Mechanical Completion."*⁸⁸⁷

(ii) IEC's preservation of materials:

*"[...] Claimants' alleged failure 'to preserve materials following delivery to site' has not prevented GE/BHGE from achieving Mechanical Completion. Claimants 'were keenly aware of the need to properly handle the materials when received and during the erection process' and did so effectively and timely. In contrast, GE/BHGE's own disorganized and loose shipments and failure to tropicalize the Trains have stymied its ability to achieve Mechanical Completion. Regardless, GE/BHGE provides no evidence that Claimants' alleged failure to preserve materials prevents Mechanical Completion — unlike the numerous ongoing defects which GE/BHGE must correct before the Trains are safe and operational."*⁸⁸⁸

(iii) IEC preventing rectification of piping supports:

*"[...] Claimants had good reason to deny GE/BHGE's performance of a 3D laser scanning: (i) GE/BHGE already had a site survey available to it and (ii) such scanning would have further set back the Mechanical Completion of Train 1 by requiring removal of insulation that would have to be reinstalled at significant time and expense. Had GE/BHGE provided defective-free Trains as it was contractually obligated, there would have been no need to perform a 3D laser scan because Claimants erected the Trains — while GE/BHGE was on site — in accord with GE/BHGE's design."*⁸⁸⁹

⁸⁸⁶ SoC, ¶256; see also SoR, ¶¶190-193.

⁸⁸⁷ SoR, ¶557.

⁸⁸⁸ SoR, ¶558.

⁸⁸⁹ SoR, ¶562.

(iv) Inputs for flare network design review:

*"[...] Claimants have not refused to provide inputs associated with the BOP necessary for GE/BHGE to complete the flare network design, as GE claims. To the contrary, the parties engaged in several, multi-day HAZOPs in mid-2017 during which a full and complete review of the entire Rumuji site, including not just Trains 1 and 2 but also all BOP systems and Train 3, was conducted and approved by BHGE/GE's engineers. No changes to the site have occurred since these HAZOPs. Thus, as of the final HAZOP in September 2017, GE/BHGE was in possession of all inputs necessary to complete the flare network design that it agreed to provide under the July 2015 agreement. Furthermore, GE/BHGE frustrated the efforts of Softec, one of Claimants' technical advisors, to resolve outstanding flare-related issues by refusing to provide its detailed calculations in response to Softec's queries."*⁸⁹⁰

890. In the Claimant's Second Post-Hearing Brief, IEC argues that it "def[ies] commonsense"⁸⁹¹ that GEOG would "claim millions of dollars in payment for milestones it concedes Claimants (as opposed to itself) are achieving."⁸⁹² And it adds that this would be contrary to Clause 7.1 of the Equipment Contract (which stipulates that the contract price is consideration for performance by GEOG of all its obligations)⁸⁹³ and also to New York law, "which requires a party alleging breach of contract to demonstrate it has performed its own obligations."⁸⁹⁴

891. Further to the Arbitral Tribunal's questions to the Parties in Procedural Order No. 10, IEC submitted the following:

"Due to the COVID-19 pandemic, Trains 1 and 2 are not currently in operation. The mechanical aspects of the necessary 'make-good' elements (i.e., installation of the VFD, switching the incorrect cables, remediating the stress defects) were completed by Claimants on Train 1 in early 2020, and with a few minor exceptions, have also been completed on Train 2. However, because of GE's abandonment of the project, the work to test, commission and start-up the Trains requires that Claimants secure assistance from other experts, including OEM technicians, all of whom are located outside Nigeria. Claimants have been unable to arrange for that expert/technical assistance given the national restrictions and limitations on international air travel that began being

⁸⁹⁰ SoR, ¶561.

⁸⁹¹ Cs' PHB2, ¶146.

⁸⁹² Cs' PHB2, ¶145.

⁸⁹³ Cs' PHB2, ¶146.

⁸⁹⁴ Cs' PHB2, ¶147.

implemented worldwide in February, and include the ongoing lockdown in Nigeria, which commenced in March."⁸⁹⁵

3. Arbitral Tribunal's analysis

a. Spare Parts

892. In support of its allegation that IEC purchased two year spares and commissioning/startup spares for the amount of USD 3,500,000, GEOG submitted two purchase orders of 28 December 2016⁸⁹⁶ and a change order of 31 March 2017,⁸⁹⁷ as well as Mr Pagliaro's testimony.⁸⁹⁸ And in support of its allegation that the amount of USD 412,378 remains outstanding, GEOG submitted an invoice of 6 March 2019⁸⁹⁹ and a Credit Invoice of 7 March 2019,⁹⁰⁰ as well as a payment reminder of 17 May 2019.⁹⁰¹
893. IEC has not denied any of the foregoing. Thus, the Arbitral Tribunal considers this claim to be sufficiently substantiated.
894. The amount became due on 6 April 2019.

b. Train 2 Ready to Ship

895. Under the Equipment Contract IEC undertook to pay a price in consideration for the Trains sold and delivered by GEOG.⁹⁰² Pursuant to Clause 7.1 of the Equipment Contract, such price was to be paid in accordance with a payment schedule, which stipulates that certain percentages shall be due thirty days from receipt of an invoice following the completion of certain milestones and receipt of all the relevant documentation.
896. One of those milestones is the "Plant Ready to Ship" milestone (the last item within the "Fabrication" group) upon which 2% (10% of 20%) of the Contract Price, i.e. USD 950,000, per Train, became due.
897. As explained above,⁹⁰³ Train 2 was delivered on 28 March 2016. It follows that it was "Ready to Ship" on that same date.

⁸⁹⁵ Claimants' Response to Procedural Order No. 10, of 30 July 2020, p. 2.

⁸⁹⁶ Exhibits R-196 and R-197.

⁸⁹⁷ Exhibit R-198.

⁸⁹⁸ Exhibit RWS-7, ¶28.

⁸⁹⁹ Exhibit R-199.

⁹⁰⁰ Exhibit R-200.

⁹⁰¹ Exhibit R-243.

⁹⁰² See Clause 5 of the Equipment; see also Clause 3 of Appendix A: "Contract Seller's Scope of Supply for the Plants includes process design, engineering design, procurement and module fabrication for the 'Natural Gas Liquefier Units'."

⁹⁰³ ¶436.

898. On 16 September 2016, GEOG issued an invoice for, among others, USD 950,000 for “*Train 2-Plant Ready to Ship*.”⁹⁰⁴
899. Thus, payment for the “Plant Ready to Ship” milestone for Train 2 became due on 16 October 2016.

c. Mechanical Completion of Trains 1 and 2

900. Clause 1 of the Equipment Contract defines “Mechanical Completion” as follows:

“ ‘Mechanical Completion’ means that a Plant has been mechanically, electrically and structurally installed on Site and connected, in accordance with the Technical Documentation, but excluding (i) Commissioning, (ii) any minor items which do not materially affect the operation or safety of the Plant and (iii) the introduction of gas, fluids and/or electricity. In the event Seller is prevented from Mechanical Completion due to reasons beyond its control, Mechanical Completion shall mean five (5) months after the Delivery Date.”

(1) Whether Mechanical Completion was achieved in September 2016 or May 2018

901. The Arbitral Tribunal rejects GEOG’s allegations that Train 1 was mechanically completed either in September 2016⁹⁰⁵ or in May 2018.⁹⁰⁶ While the “Certificates of Assembly Completion” signed by IEC for all sub-systems of Train 1 are circumstantial evidence for Mechanical Completion of Train 1, the Arbitral Tribunal finds that there is sufficient evidence to the contrary.
902. In this regard, IEC has raised five issues which, in its view, negate Mechanical Completion.
903. These five issues are analyzed below.

(a) MRC motor cables

904. As explained above,⁹⁰⁷ the MRC motor cables supplied by GEOG were in fact undersized.
905. The undersized MRC Cables meant that the Trains could not be safely operated at the capacity they were designed for. Hence, the operation and safety of the Trains was affected, which prevents Mechanical Completion, as per the term’s contractual definition.

⁹⁰⁴ Exhibit R-185; the Respondents explain in this regard: “*Due to the impossibility of collecting such amounts, and to comply with requirements under the Sarbanes-Oxley Act, GEOG withdrew the invoices and issued credit invoices on November 30, 2016*” (SoD, ¶218).

⁹⁰⁵ See SoD, ¶217, and Exhibit R-184.

⁹⁰⁶ See SoCC, ¶¶126, 170; SoD, ¶219; Rs’ PHB1, ¶25; and Exhibits R-79 and R-81.

⁹⁰⁷ §X.B.3.a(3)(c)iii.

(b) Piping supports (stress tests)

906. As explained above,⁹⁰⁸ it is clear to the Arbitral Tribunal that the piping defects, which were present in February 2019, were not minor but materially affected the operation and safety of the Trains and thus prevented the attainment of Mechanical Completion in 2016 or 2018.

(c) VFD

907. As explained above,⁹⁰⁹ GEOG is liable for the suitability of the soft-starter to start the MRC's supplied by GEOG.
908. Until an effective starting system, i.e. the VFD, was installed, the Trains could not be operational.⁹¹⁰

(d) Flare design

909. In the Statement of Counterclaim, GEOG asserted that IEC's construction of the flare lines was poor and that as a result the pipes "*contain an inverted slope creating a low pocket, in which liquids that are supposed to flow freely in the pipe can accumulate in the low points of the flare piping due to condensation of the vapor.*"⁹¹¹ GEOG described the risk of this defect as follows: "*This can lead to a slug of liquid being sent to the flare while vapor is being released and can potentially cause 'burning rain', excess back pressure, and possible large reaction forces in the header.*"⁹¹²
910. IEC concurred in the Statement of Claim that the pockets without slope or sufficient slope in the flare lines pose "*a serious safety issue*"⁹¹³ and "*a significant risk exists that liquid traveling to the flare will collect in the pipe and hammering of liquid (i.e., a rapid change in the momentum of the liquid due to a pressure wave) may occur.*"⁹¹⁴ Indeed, IEC's expert explained that "*continuously sloped piping to prevent accumulation of liquids in PRV discharge lines and flare headers are critical for safe operation of flare systems during process upset and emergency depressurization events*" and that "[t]he purpose of these industry consensus specifications is to protect against dangerous phenomena such as 'burning rain,' liquid hammering, and back pressure build up in flare systems."⁹¹⁵

⁹⁰⁸ §X.B.3.a(3)(c)ii.

⁹⁰⁹ §X.B.2.d(3)(a).

⁹¹⁰ See SoC, ¶210.

⁹¹¹ SoCC, ¶155; see Exhibit RWS-2, ¶38.

⁹¹² SoCC, ¶155; see Exhibit RWS-2, ¶38.

⁹¹³ SoC, ¶186.

⁹¹⁴ SoC, ¶185.

⁹¹⁵ Exhibit CER-2, p. 13.

911. However, IEC asserted that the defect was not due to poor construction but to a defective engineering.⁹¹⁶
912. Indeed, as the Respondents' revisions to Claimants' draft minutes of meeting show, in the 12-13 February 2019 meeting in Rumuji IEC pointed out that "*GEOG's is in principle right [that the slope, as-built, does not conform to GEOG's design] but the problem is that the two fixed points to be interconnected make impossible to achieve the design slope, due to their position which cannot be changed.*"⁹¹⁷ And it added that "*GEOG must study the case with this new input from IEC and revert a suitable solution.*"⁹¹⁸ GEOG's position in the meeting is reflected as follows in the minutes of meeting:
- "[...] *GEOG must study the case with this new input from IEC and revert a suitable solution*
- *There are pockets (zero-slope traits) in the flare header and piping between PRVs and flare header that must be eliminated. GEOG to review and provide solution.*"⁹¹⁹
913. In the Statement of Defense, GEOG no longer insisted that the insufficient slope was due to poor construction by IEC but it now claimed that "*although it is true that the slope of some segments of the flare system do not comply with the design standard, this does 'not require remedial work' and IEC could have accepted the solution proposed by GEOG.*"⁹²⁰ GEOG relied in this regard on its expert, Mr Borrowman, who confirmed that "[t]here are segments of the flare system pipework which have a negative slope or no slope or a positive slope which is less than that recommended by the design standard API RP 521"⁹²¹ but opined that "[t]he segments of the vent headers and flare headers with no or inadequate slope will not cause sufficient liquid accumulation to cause damage, create excessive backpressure or 'burning rain'"⁹²² and that "*the consequences are not significant and do not require remedial work.*"⁹²³
914. In the Respondents' First Post-Hearing Brief, GEOG maintained that "[b]oth sides' experts do agree, however, that whatever issue may potentially have existed was fixed some time ago during the construction of the flare."⁹²⁴ However, the testimony of Dr. Caligiuri on which GEOG relies in this regard is not straightforward. While Dr. Caligiuri seemed to confirm the counsel's

⁹¹⁶ SoC, ¶185.
⁹¹⁷ Exhibit C-243, p. 14.
⁹¹⁸ Exhibit C-243, p. 14.
⁹¹⁹ Exhibit C-243, p. 14.
⁹²⁰ SoD, ¶63(iii).
⁹²¹ Exhibit RER-11, ¶1.3.1.1.
⁹²² Exhibit RER-11, ¶5.2.1.1.
⁹²³ Exhibit RER-11, ¶5.3.1.2.
⁹²⁴ Rs' PHB1, ¶121.

proposition that *"there is no longer any problem with the flare system,"*⁹²⁵ he then clarified *"I don't think the issues in the vent lines have been -- have been addressed."*⁹²⁶ Dr Caligiuri seemed to be making a distinction between the vent headers and the flare headers.⁹²⁷ When confirming that the "flare line" had been fixed, Dr Caligiuri might have meant the high temperature flare header which was determined to be correctly sloped.⁹²⁸ Still, Dr Caligiuri's testimony is confusing in this instance considering that he himself had pointed out, in his reply report, that *"Mr. Borrowman concedes there are several sections of the [...] low temperature (LT) flare header with 'negative' or 'inadequate' slopes."*⁹²⁹ In any event, this bit of unclear oral testimony given at the Hearing does not cast doubt on the fact, asserted by both GEOG and IEC and confirmed by both experts in their expert reports, that the flare system pipework, as constructed, has segments with a negative slope or no slope or a positive slope which is less than recommended.

915. In recapitulation, GEOG shifted from asserting that the flare line, as built, had an insufficient slope, which posed a serious safety risk, to claiming, first, that the insufficient slope posed no serious risk and required no remedial work, and finally, that the insufficient slope had actually been fixed long ago. This extraordinary sequence renders GEOG's allegations on this issue rather unpersuasive.
916. The Arbitral Tribunal finds that the insufficient slope was the result of a deficiency in GEOG's engineering, and that such defect materially affected the safe operation of the Trains, thus preventing Mechanical Completion.

(e) PRVs

917. It seems undisputed that the problem with the PRVs with back-pressure issues was present in early 2009.⁹³⁰ Thus, if this problem were not to be considered a minor item which does not materially affect the operation or safety of the Trains, it would prevent Mechanical Completion.
918. According to GEOG, the back flow preventers missing from the PRVs do *"not affect the functionality of the valve during operation."*⁹³¹
919. As already explained by the Arbitral Tribunal in Procedural Order No. 5, deciding on the Claimants' request for interim measures:

⁹²⁵ Tr. Day 7, 257:3-23.

⁹²⁶ Tr. Day 7, 258:9-10; see Exhibit RER-11, §4.7.1.

⁹²⁷ See, in this regard, Exhibit CER-8, ¶6.2.2 and Exhibit RER-11, ¶4.1.1.4, Figure 1.

⁹²⁸ See Exhibit CER-8, ¶6.2.25 and Exhibit RER-11, §4.7.2.

⁹²⁹ Exhibit CER-8, ¶6.2.25, in reference to Exhibit RER-11, §4.7.3

⁹³⁰ See Exhibits C-243, p. 14, item no. 14; C-186, pp. 5-6; SoC, ¶¶256; SoR, ¶¶190-191; Attachment to the Respondents' answer of 21 August 2019 to the Claimants application for interim relief, p. 3.

⁹³¹ Attachment to the Respondents' answer of 21 August 2019 to the Claimants application for interim relief, p. 3.

*"The Arbitral Tribunal notes that the Claimants did not address or refute the Respondents' statement that the missing Back Flow Preventers do not affect the functionality of the PRVs. Their statements that the PRVs are 'essential safety devices' is not at odds with the Respondents' contention that the missing Back Flow Preventers do not affect the PRV's functionality. Neither does the Exponent Expert Report, quoted by the Claimants, contradict the Respondents' position. In fact, the Exponent Report seems to refer to a different issue (that multiple PRVs were not adequately calibrated due to inactivity resulting from delays), 'full remediation of [which had] occur[red] on August 31, 2018.' "*⁹³²

920. Neither in its subsequent briefs⁹³³ did IEC address or refute GEOG's statement that the missing back flow preventers do not affect the functionality of the PRVs but are merely used during maintenance. IEC's experts did not address this issue either.
921. The only evidence that the Arbitral Tribunal has seen that could potentially call into question GEOG's statement that the back flow preventers are only needed for maintenance is the following statement to be found in the minutes of the meeting of 19 March 2019: *"The PRV back flow preventer is an accessory that will be added to the existing installed PRV valves to avoid any back flow through the valve **during start up** or/and maintenance."*⁹³⁴
922. However, in the absence of further explanations and, in particular, expert evidence, on this issue, the Arbitral Tribunal finds that IEC has not met its burden of proof that the back flow preventer issue materially affected the operation or safety of the Trains and thus prevented Mechanical Completion.

(f) Conclusion

923. The Arbitral Tribunal concludes that each of the four outstanding issues (MRC Cables, defective piping, VFD and flare design), by itself, impedes achievement of Mechanical Completion of the Trains, as none can be considered a minor item which does not materially affect the operation or safety of the Trains.
924. Since each of these issues remained outstanding in May 2018, the Arbitral Tribunal finds that Mechanical Completion of neither Train had occurred by May 2018.

⁹³² Procedural Order No. 5, ¶59.

⁹³³ See SoR, ¶¶190-191.

⁹³⁴ Exhibit R-249, p. 2, item no. 1.7, emphasis added.

(2) Whether Mechanical Completion is to be deemed achieved

925. The Arbitral Tribunal also rejects GEOG's argument that the Mechanical Completion is to be deemed achieved five months after the Delivery Date because GEOG was prevented from Mechanical Completion due to reasons beyond its control.⁹³⁵ As analyzed below, none of the reasons invoked by GEOG prevented GEOG from Mechanical Completion.

(a) IEC's cannibalization

926. The first reason alleged by GEOG is IEC *"altering and removing parts and systems that had been certified as complete by IEC for use on IEC's Train 3, thereby destroying the traceability of materials and workmanship and undermining GEOG's ability to achieve a Mechanical Completion certificate."*⁹³⁶
927. The Arbitral Tribunal has already determined that the alleged cannibalization does not have the weight GEOG attributes to it but it gives credence, in general terms, to IEC's explanations that only minor commodity-type items were shifted from Train 2 to Train 3 and that replacement were soon reinstalled in Train 2.⁹³⁷
928. More importantly, GEOG has failed to explain how the removal of which part or system caused, contributed to or disrupted the solution of, any of the four central issues identified above to having prevented Mechanical Completion.

(b) IEC's preservation of materials

929. GEOG asserts that IEC *"fail[ed] to preserve materials following delivery to site, including but not limited to a failure to properly store, install and maintain the Trains."*⁹³⁸
930. Even assuming that IEC's preservation of materials was inadequate, GEOG has failed to show how this might have significantly impacted the timing of rectification of the four central issues identified above to having prevented Mechanical Completion.

(c) IEC's position on the issues of MRC cables and VFD

931. GEOG argues that IEC *"refusing to acknowledge that the provision of MRC cables and VFD is not within GEOG's scope of supply under the Equipment Contract"* prevented GEOG from achieving Mechanical Completion.⁹³⁹

⁹³⁵ SoD, ¶¶220-222; Rs' PHB1, ¶25.

⁹³⁶ SoD, ¶220(i).

⁹³⁷ ¶656.

⁹³⁸ SoD, ¶220(ii).

⁹³⁹ SoD, ¶220(iii).

932. It is unfathomable to the Arbitral Tribunal how IEC holding a position as regards these issues could have the potential to prevent GEOG from achieving Mechanical Completion.

(d) IEC preventing rectification of piping supports

933. GEOG's argument that Mechanical Completion is to be deemed achieved due to IEC's lack of cooperation with the rectification of the piping supports fails because, as explained above,⁹⁴⁰ the Arbitral Tribunal considers IEC's explanations as to why it held back with authorizing GEOG to perform the remediation works to be reasonable.
934. Further, GEOG has not made a specific allegation regarding the date on which, if IEC had cooperated, it would have finished rectifying the piping supports and thus, Mechanical Completion should be deemed to have occurred.
935. But even assuming that, if IEC had cooperated, GEOG would have rectified the piping supports at some point during 2019, this does not do away with the other three defects which negate Mechanical Completion.

(e) Inputs for flare network design review

936. GEOG's last objection is that IEC "*refus[ed] to provide the needed inputs associated with the BOPs out of GEOG scope of supply to complete the flare network design review.*"⁹⁴¹
937. However, this issue is unrelated to the flare design issue (insufficient slope) or to any of the other three issues determined to have prevented Mechanical Completion.

(3) Whether IEC failed to act reasonably and fairly

938. GEOG argues that "*IEC's refusal to acknowledge and compensate GEOG for Mechanical Completion of Train 1 and 2 is a breach of IEC's obligation under Clause 1.7 of the Equipment Contract to act reasonably and fairly.*"⁹⁴² It is not entirely clear which consequence should be drawn from the foregoing, in GEOG's opinion. In any event, the Arbitral Tribunal is not persuaded by the argument given that IEC's stance was not only reasonable and fair but it was also correct, as concluded above.

(4) Whether Mechanical Completion was achieved in early 2020

939. However, the Arbitral Tribunal does find that Mechanical Completion was indeed achieved subsequently. In this regard, IEC has submitted that "[t]he mechanical aspects of the necessary

⁹⁴⁰ ¶¶675-677.

⁹⁴¹ SoD, ¶220(v).

⁹⁴² SoD, ¶224.

*'make-good' elements (i.e., installation of the VFD, switching the incorrect cables, remediating the stress defects) were completed by Claimants on Train 1 in early 2020, and with a few minor exceptions, have also been completed on Train 2*⁹⁴³ but that testing, commissioning and start-up of the Trains is still outstanding due to the restrictions caused by the COVID-19 pandemic.⁹⁴⁴

940. Given that, in "early 2020" at the latest, the installation of both Trains was complete, with the exception only of minor items, both Trains are mechanically complete, as per the above contractual definition, at least since that moment. Given that IEC has not provided a more specific date in reply to the Arbitral Tribunal's question in Procedural Order No. 10, the Arbitral Tribunal deems Mechanical Completion of both Trains to have been reached on 1 January 2020.
941. Even though the Arbitral Tribunal may have sympathy with IEC's frustration with GEOG's attitude and behavior, it is not persuaded by IEC's arguments that it defies common sense for GEOG to "claim millions of dollars in payment for milestones it concedes Claimants (as opposed to itself) are achieving"⁹⁴⁵ and that "Clause 7.1 states that BHGE is only entitled to the Contract Price 'in consideration for the performance by [BHGE] of all its obligations under the Agreement.' "⁹⁴⁶ The Arbitral Tribunal considers that the payment due for this Milestone is akin to a 10% installment of the purchase price, i.e., it is consideration for 10% of the value of each of the Trains sold and delivered. In contrast, the payment does not serve the purpose of remunerating or crediting GEOG or GE Nigeria for any contribution regarding the installation and connection works conducive to Mechanical Completion:
- (i) As explained above,⁹⁴⁷ GEOG's primary obligation under the Equipment Contract is fulfilled with delivery of Trains 1 and 2, which occurred on 28 March 2016. The subsequent installation and connection works to be performed in order to reach Mechanical Completion are in IEC's scope. It is true that defects/non-conformities of the Trains delivered by GEOG have the potential to adversely affect the pace and success of IEC's works towards Mechanical Completion. And IEC is entitled to withhold payment for this Milestone for as long as Mechanical Completion is not reached due to reasons within GEOG's control (Clause 7.6⁹⁴⁸ in conjunction with the definition of Mechanical Completion in Clause 1 of the Equipment Contract). This withholding right may well be meant to serve as an incentive for GEOG to swiftly remediate any defects/non-conformities that may stand in the way of

⁹⁴³ Claimants' Response to Procedural Order No. 10, of 30 July 2020, p. 2.

⁹⁴⁴ Claimants' Response to Procedural Order No. 10, of 30 July 2020, p. 2.

⁹⁴⁵ Cs' PHB2, ¶¶145-146.

⁹⁴⁶ Cs' PHB2, ¶146.

⁹⁴⁷ ¶436.

⁹⁴⁸ "Buyer may withhold payment on an invoice or a portion thereof in the event of a failure of Seller to perform the Milestone related to the withheld payment in accordance with the provisions of this Agreement."

Mechanical Completion. However, this does not mean that the milestone payment for Mechanical Completion constitutes *consideration* for a possible contribution by GEOG towards Mechanical Completion. Therefore, the fact that GEOG may not have contributed to Mechanical Completion or that its failure to remediate defects/non-conformities may have been disruptive to IEC's works towards Mechanical Completion does not cancel GEOG's right to eventually receive full payment for the Trains sold and delivered. Of course, the Equipment Contracts makes other remedies available to IEC to specifically address GEOG's failure to remediate defects/non-conformities, namely those in Clause 17.4 of the Equipment Contract, as discussed above.⁹⁴⁹

- (ii) GE Nigeria is indeed involved in the works towards Mechanical Completion pursuant to the Services Agreement. However, GE Nigeria's performance in this regard cannot have any bearing on GEOG's entitlement to payment under the Equipment Contract. As the Equipment Contract makes clear, the Services Agreement is a "separate" contract.⁹⁵⁰ It is true that both Contracts are linked to a certain extent by their respective Clauses 20.2 and also by the Guarantee. However, neither Clause 1 of the Guarantee (in which GEOG guarantees to IEC the performance of GE Nigeria's obligations under the Services Agreement) nor Clauses 20.2(c) of the Contracts (which stipulate that GEOG and GE Nigeria shall not assert each other's performance or non-performance under the other contract as a defense to any claim by IEC) can serve as a basis to bar GEOG's entitlement to payment of the Contract Price by reason of GE Nigeria's performance under the Services Agreement.

942. In conclusion, the Arbitral Tribunal finds that Mechanical Completion for both Trains was reached by 1 January 2020. Given that GEOG is requesting payment for this Milestone in this arbitration, the Arbitral Tribunal considers that the additional issuance of an invoice⁹⁵¹ is dispensable in order for the payment obligation to be triggered pursuant to Clause 7.1 of the Equipment Contract.

943. Thus, payment of USD 9,500,000 for the Mechanical Completion Milestone of both Trains is due since 31 January 2020.

d. Taking Over of Trains 1 and 2

944. Clause 1 of the Equipment Contract defines "Taking Over" as follows:

⁹⁴⁹ ¶¶592(iii), 788(ii).

⁹⁵⁰ Equipment Contract, Clause 1, Definitions of "Services," "Services Agreement" and "Services Provider."

⁹⁵¹ Those issued on 16 September 2016 (Exhibit R-185) and on 13 June 2018 (Proforma Invoice, Exhibit R-81, p. 3) were premature.

" 'Taking Over' means the point in time when the conditions set out in Clause 26.1 have been fulfilled, as evidenced by the Taking Over Certificate. In the event Seller is prevented from meeting the conditions set out in Clause 26.1 due to reasons beyond Seller's control, Taking Over shall mean eight (8) months after the Delivery Date."

945. The conditions set out in Clause 26.1 are the following:

"As soon as the following conditions are fulfilled in respect of a Plant, Buyer shall issue to Seller the Taking Over Certificate for such Plant:

(i) Seller has complied with all its obligations under the Agreement, and in particular, the Plant has been delivered in accordance with the terms of this Agreement;

(ii) the Plant has been Commissioned (other than with respect to the items on the Punch List) and the Services have been performed in accordance with the Service Agreement; and,

(iii) the Acceptance Tests have been passed and Seller has issued all the Test Certificates, and the Plant has achieved all of the Guaranteed Performances, or the Liquidated Damages for failure to achieve the Guaranteed Performances are less than or equal to five percent (5%) of the Contract Price for each Plant, as per Clause 25."

946. While the Trains have been delivered,⁹⁵² they have not been commissioned nor have the Acceptance Test been carried out.⁹⁵³

947. GEOG's argument that Taking Over is deemed to have occurred eight months after the Delivery Date because, as per the definition in Clause 1 of the Equipment Contract, GEOG was *"prevented from meeting the conditions set out in Clause 26.1 due to reasons beyond [its] control,"*⁹⁵⁴ is not convincing to the Arbitral Tribunal.

948. As explained above,⁹⁵⁵ so long as the above mentioned four major defects in the delivered Trains remained unsolved, Mechanical Completion could not occur. Therefore, GEOG was responsible for at least some of the obstacles to reaching Mechanical Completion. Thus, GEOG was not prevented from Mechanical Completion due to reasons beyond its control. *A fortiori*, until Mechanical Completion occurred on 1 January 2020, GEOG was not prevented from meeting the conditions for Taking Over set out in Clause 26.1 due to reasons beyond its control.

⁹⁵² See above, ¶436.

⁹⁵³ As explained by the Claimants, *"the work to test, commission and start-up the Trains"* has not been concluded (Claimants' Response to Procedural Order No. 10, of 30 July 2020, p. 2).

⁹⁵⁴ SoD, ¶220.

⁹⁵⁵ ¶923.

949. GEOG has alleged only one circumstance which, it argues, was beyond its control and prevented it from meeting the Taking-Over conditions after 1 January 2020, namely that *"the gas available at the Rumuji Plant is substantially different from the one specified in the Equipment Contract"* which, so argues GEOG, *"will prevent the Trains from reaching the Guaranteed Performances."*⁹⁵⁶
950. The Arbitral Tribunal finds this argument unconvincing. Under Clause 4.1.2 of Appendix A,⁹⁵⁷ the initiative to commence Acceptance Testing is GEOG's who, once the Train attains stable operation, is to issue a Test Certificate to IEC that the Train is ready for Acceptance Tests. Pursuant to the same Clause 4.1.2 of Appendix A, if 48 hours after issuance of such certificate *"the Acceptance Tests cannot be completed due to gas supply, power supply or factors outside Seller's control then the Plant will be considered provisionally accepted,"* i.e. Taking Over is deemed to have occurred. Thus, the Equipment Contract contemplates problems with the gas supply, but such problems can only result in Taking Over being deemed to have occurred if they are extant at the moment scheduled for commencement of the Acceptance Testing (following issuance by IEC of the Test Certificate that the Train is ready for Acceptance Tests). GEOG's prediction that the gas will be non-conforming is speculative and premature, especially considering that it is GEOG's own contention that *"We still do not know the gas composition that is being fed to Train 3 (and which will eventually be fed to Trains 1 and 2 if and when they are put into operation)"*⁹⁵⁸ and that without knowing the final gas composition the Trains' performance *"is only a matter of speculation."*⁹⁵⁹
951. In conclusion, the Arbitral Tribunal finds that Taking Over has not occurred nor is it deemed to have occurred. Thus, the Arbitral Tribunal dismisses GEOG's claim for payment of USD 9,500,000 for this Milestone for both Trains.

B. Services Agreement Price

1. GE Nigeria's position

952. In the Statement of Defense, GE Nigeria states:

⁹⁵⁶ Rs' PHB1, ¶127.

⁹⁵⁷ "4.1.2 Start-Up Tests
Stable Operation

The Plant is to attain stable operation before testing commences. Seller will issue a Test Certificate to Buyer that the Plant is ready for Acceptance Tests. Acceptance Testing will commence within forty-eight (48) hours of certificate issuance, and will be conducted in accordance with the Services Agreement. In the event the Acceptance Tests cannot be completed due to gas supply, power supply or factors outside Seller's control then the Plant will be considered provisionally accepted.

The Acceptance Tests will be rescheduled at a mutually agreeable time, at Buyer's expense."

⁹⁵⁸ Rs' PHB2, ¶17.

⁹⁵⁹ Rs' PHB2, ¶189.

“Clause 7.1 of the Services Contract provides that GE Nigeria may invoice for the hours performed before the following key events: (i) Mechanical Completion of the Trains, (ii) conclusion of Commissioning, (iii) conclusion of Acceptance Tests, (iv) at Taking Over and (v) sixty days after Taking Over. The contractual definition of Taking Over is similar to that of the Equipment Contract in that it provides that: ‘...In the event [GE Nigeria] is prevented from meeting the conditions set out in Clause 15.1 due to reasons beyond [GE Nigeria]’s control, Taking Over shall mean six (6) months after the Commencement Date.’ ”⁹⁶⁰

953. GE Nigeria submits that it has *“exhausted the hours provided for in the lump sum payment under the Services Contract in April 2017”*⁹⁶¹ and *“[a]s the Taking Over Milestone of the Equipment Contract has been achieved, the entire lump sum amount of \$1,000,000 is due under the Services Contract.”*⁹⁶²

2. IEC's position

954. In the Statement of Reply, IEC has argued that GE Nigeria’s claim for payment of the price under the Services Agreement fails for the same reasons as GEOG’s claim for payment of the price under the Equipment Contract for the milestone of Mechanical Completion of Train 1:⁹⁶³

*“These fail for the same reasons as with Train 1. It is entirely within GE/BHGE’s control to cure the outstanding defects in order to achieve Mechanical Completion and subsequent Taking Over of Trains 1 and 2. Instead of doing so, however, GE/BHGE unjustifiably decided to abandon the Rumuji site.”*⁹⁶⁴

3. Arbitral Tribunal’s analysis

955. This claim refers to the portion of the Services Contract Price for the Base Employees, which is a lump sum of USD 500,000 per Train in accordance with Clause 7.1(i) of the Services Agreements.

956. Clause 7.2 of the Services Agreement provides as follows:

“7.2 Services Provider shall be entitled to invoice for the cumulative Worked Hours performed before each of the following key events on a per Plant basis:

(i) conclusion of Mechanical Completion of the Plant;

⁹⁶⁰ SoD, ¶230.

⁹⁶¹ SoD, ¶229.

⁹⁶² SoD, ¶231; see also Rs’ PHB1, ¶28.

⁹⁶³ SoR, ¶¶563-564.

⁹⁶⁴ SoR, ¶564.

(ii) conclusion of Commissioning;

(iii) conclusion of Acceptance Tests;

(iv) at Taking Over; and,

(v) sixty (60) Days after Taking Over;

it being understood that in respect of the portion of the Services Contract Price for the Base Employees, Services Provider shall be entitled to invoice twenty percent (20%) of such portion of the Services Contract Price for the Base Employees when each of the above mentioned milestones is reached."

957. As explained above,⁹⁶⁵ the Arbitral Tribunal considers that Mechanical Completion of both Trains was attained on 1 January 2020. Thus, GEOG Nigeria is entitled to 20% of the Services Contract Price for the Base Employees, i.e. USD 200,000 for both Trains.

958. However, none of the subsequent milestones has been reached thus far⁹⁶⁶ nor, for that matter, has GE Nigeria performed any on-site services in any phase subsequent to Mechanical Completion. Consequently, the part of this claim corresponding to those four subsequent four milestones (USD 800,000, in total) is dismissed.

C. Additional works

1. Counterclaimants' position

959. In the Statement of Counterclaim, the Counterclaimants make claims for additional works under the Contracts:

(i) GEOG claims for additional works under the Equipment Contract an amount of USD 9,905,408.62.⁹⁶⁷ It submits that "[a]lthough GEOG performed a significant amount of work outside of its Scope of Supply, IEC refused to execute or even entertain change orders to increase the contract price."⁹⁶⁸ And it explains:

*"Relying on a good faith 'commercial discussion' with IEC at the end of the project, GEOG continued to implement changes to the contractual scope of works at its own cost, carrying out activities and procuring equipment to complete the Rumuji Plant, even though it was not obliged to do so under the Equipment Contract."*⁹⁶⁹

⁹⁶⁵ §XI.A.3.c(4).

⁹⁶⁶ See above, ¶946.

⁹⁶⁷ SoCC, ¶168.

⁹⁶⁸ SoCC, ¶163.

⁹⁶⁹ SoCC, ¶56.

- (ii) GE Nigeria claims for additional services under the Services Agreement an amount of USD 5,511,076.68.⁹⁷⁰ It submits that “[a]t the meeting in Florence on November 9, 2016, it was agreed between the Parties that the GEOG Entities would perform additional works in the interest of completing all aspects (not only their scope of work) of the Rumuji Plant, and that the Parties would then have a commercial discussion as to whether the additional works were ‘works under the Services Agreements.’”⁹⁷¹ GE Nigeria follows that, “it has always been clear that any works that fell outside of the Services Contract were extra work subject to additional compensation from IEC.”⁹⁷² Thus, GE Nigeria claims “compensation for these Additional Employees provided pursuant to and at the rates set forth in Clauses 5.2(ii) and Clause 7.5 of the Services Contract, in accordance with Clauses 2 and 25 of the Services Contract.”⁹⁷³ It also submits that “IEC’s refusal to approve payment for the extra works it requested is a breach of Clause 1.7 of the Services Contract.”⁹⁷⁴

GE Nigeria further explains that it has excluded from its claims for additional work under the Services Agreements any hours spent carrying out works pertaining to GEOG’s scope of supply under the Equipment Contract.⁹⁷⁵

960. In the Statement of Counterclaim, GEOG submits the following claims for additional works under the Equipment Contract:⁹⁷⁶

- (i) Interconnecting pipework: USD 3,904,761.50.⁹⁷⁷
- (ii) Bolt changes: USD 687,621.52.⁹⁷⁸
- (iii) Gas composition changes: USD 773,800.00.⁹⁷⁹
- (iv) Load out philosophy: USD 495,000.00.⁹⁸⁰
- (v) Power generation: USD 255,500.00.⁹⁸¹
- (vi) IEC delay with technical information: USD 329,000.00.⁹⁸²

⁹⁷⁰ SoCC, ¶196.
⁹⁷¹ SoCC, ¶¶164.
⁹⁷² SoCC, ¶¶164.
⁹⁷³ SoCC, ¶¶196-200.
⁹⁷⁴ SoCC, ¶¶196-200.
⁹⁷⁵ SoCC, ¶¶198-199.
⁹⁷⁶ SoCC, ¶169.
⁹⁷⁷ SoCC, ¶¶171-174, with reference to Exhibit RER-7, Section 5.4.
⁹⁷⁸ SoCC, ¶¶175-177, with reference to Exhibit RER-7, Section 5.5.
⁹⁷⁹ SoCC, ¶¶178-179, with reference to Exhibit RER-7, Section 5.6.
⁹⁸⁰ SoCC, ¶¶180-181, with reference to Exhibit RER-7, Section 5.7.
⁹⁸¹ SoCC, ¶¶182-183, with reference to Exhibit RER-7, Section 5.8.
⁹⁸² SoCC, ¶¶184-185, with reference to Exhibit RER-7, Section 5.9.

- (vii) IEC requests for alternative designs: USD 178,500.00.⁹⁸³
 - (viii) Vent / flare systems: USD 234,500.00.⁹⁸⁴
 - (ix) BOG compressor inlet: USD 229,557.60.⁹⁸⁵
 - (x) LNG train control system spares: USD 421,280.00.⁹⁸⁶
 - (xi) Prolongation: USD 420,000.00.⁹⁸⁷
 - (xii) Acceleration / thickening: USD 250,000.00.⁹⁸⁸
 - (xiii) Disruption: TBA.⁹⁸⁹
 - (xiv) Delayed invoice and payment: USD 374,500.00.⁹⁹⁰
 - (xv) IEC delays to change order request approval: USD 1,280,000.00.⁹⁹¹
 - (xvi) Escalation of manhour rates: USD 71,388.00.⁹⁹²
961. And GE Nigeria submits the following claims for additional works under the Services Agreement:
- (i) Additional support services: USD 11,030,420.00.⁹⁹³
 - (ii) Additional 3rd party support services at site: USD 773,286.00.⁹⁹⁴
 - (iii) 3rd party strikes at site: USD 217,500.00.⁹⁹⁵
 - (iv) 3rd party vendor support: USD 1,289,250.40.⁹⁹⁶
 - (v) Care and custody audit and rectification activities: USD 310,258.11.⁹⁹⁷
 - (vi) Defective materials management: USD 258,231.77.⁹⁹⁸
 - (vii) Accommodation and transportation: USD 157,468.00.⁹⁹⁹

⁹⁸³ SoCC, ¶¶186-187, with reference to Exhibit RER-7, Section 5.10.

⁹⁸⁴ SoCC, ¶¶188-189, with reference to Exhibit RER-7, Section 5.11.

⁹⁸⁵ SoCC, ¶¶190-191, with reference to Exhibit RER-7, Section 5.12.

⁹⁸⁶ SoCC, ¶¶192-193, with reference to Exhibit RER-7, Section 5.13.

⁹⁸⁷ SoCC, ¶¶194-195, with reference to Exhibit RER-7, Section 5.15.

⁹⁸⁸ SoCC, ¶¶194-195, with reference to Exhibit RER-7, Section 5.16.

⁹⁸⁹ SoCC, ¶¶194-195, with reference to Exhibit RER-7, Section 5.17.

⁹⁹⁰ SoCC, ¶¶194-195, with reference to Exhibit RER-7, Section 5.18.

⁹⁹¹ SoCC, ¶¶194-195, with reference to Exhibit RER-7, Section 5.19.

⁹⁹² The SoCC also mentions a claim for escalation of manhour rates (see table at ¶168) but does not further develop it. Exhibit RER-7, Section 5.20, deals with this claim.

⁹⁹³ SoCC, ¶¶201-202, with reference to Exhibit RER-7, Section 6.4.

⁹⁹⁴ SoCC, ¶¶203-204, with reference to Exhibit RER-7, Section 6.5.

⁹⁹⁵ SoCC, ¶¶205-206, with reference to Exhibit RER-7, Section 6.6.

⁹⁹⁶ SoCC, ¶¶207-208, with reference to Exhibit RER-7, Section 6.7.

⁹⁹⁷ SoCC, ¶¶209-210, with reference to Exhibit RER-7, Section 6.8.

⁹⁹⁸ SoCC, ¶¶211-212, with reference to Exhibit RER-7, Section 6.9.

⁹⁹⁹ SoCC, ¶¶213-214, with reference to Exhibit RER-7, Section 6.10.

- (viii) Site planner Eli/coordinated project schedule: USD 403,900.00.¹⁰⁰⁰
- (ix) Compensation for extended performance on site: USD 1,070,762.40.¹⁰⁰¹
962. In the Statement of Defense, the Counterclaimants revise the amounts claimed for additional works under the Contracts.¹⁰⁰² The claim for compensation for extended period on site is reframed as a claim for interest¹⁰⁰³ and the thickening claim is withdrawn.¹⁰⁰⁴
963. The Counterclaimants explain that they “*have clearly separated the extra work that was carried out related to their scopes of work and the additional work they performed*”¹⁰⁰⁵ and they argue that it is “*unconscionable*” for IEC to rely on the Contracts’ change provisions “*having taken full and knowing advantage of the benefit of those additional works.*”¹⁰⁰⁶
964. They posit that they are entitled to the amounts claimed for additional works under the Contracts on the following grounds:
- (i) Primarily, they ground their claims on Clause 24 of the Equipment Contract and Clause 25 of the Services Agreement.¹⁰⁰⁷ They argue that compliance with the change provisions of the Contracts is not a condition precedent for claims for additional work¹⁰⁰⁸ and that “*the change provisions of the Contracts are ‘liberal’ rather than ‘strict’ notice provisions.*”¹⁰⁰⁹
 - (ii) Moreover, they argue that by directing the GE Entities to perform work based on the representation that it would fairly compensate them for additional work IEC has waived and/or is estopped from relying on the contractual requirements for contractual changes.¹⁰¹⁰
 - (iii) Further, they submit that they ought to be compensated because IEC was unjustly enriched at GEOG’s expense.¹⁰¹¹
 - (iv) In the alternative, the Counterclaimants claim those sums as damages resulting from IEC’s breach of the obligation to act reasonably and fairly under Clauses 1.7 of both Contracts¹⁰¹²

¹⁰⁰⁰ SoCC, ¶¶215-216, with reference to Exhibit RER-7, Section 6.11.

¹⁰⁰¹ SoCC, ¶217, with reference to Exhibit RER-7, Section 6.12.

¹⁰⁰² SoD, ¶¶234-235.

¹⁰⁰³ Exhibit RER-16, ¶6.12.2.2.

¹⁰⁰⁴ Exhibit RER-16, ¶6.12.2.3.

¹⁰⁰⁵ SoD, ¶238.

¹⁰⁰⁶ SoD, ¶237.

¹⁰⁰⁷ See SoD, ¶255.

¹⁰⁰⁸ SoD, ¶¶240-254.

¹⁰⁰⁹ SoD, ¶244.

¹⁰¹⁰ SoD, ¶¶239, 250, 255-259.

¹⁰¹¹ SoD, ¶¶260-264.

¹⁰¹² “Where reference is made in the [Contract] to a Party’s decision, approval, refusal, consent, agreement, act, etc., such shall not be taken, given or withheld unreasonably or unfairly, unless otherwise expressly stated.”

and of the obligation to use reasonable efforts to agree upon the change order as soon as possible, under of Clause 24.2 of the Equipment Contract.^{1013 1014}

965. In the Respondents' First Post Hearing Brief, the Counterclaimants further revise the amounts of their claims for additional works under the Contracts,¹⁰¹⁵ and they provide further explanations on the interconnecting pipework,¹⁰¹⁶ bolt changes,¹⁰¹⁷ and the other additional works claimed under the Equipment Contract,¹⁰¹⁸ as well as under the Services Agreement.¹⁰¹⁹ The claim for third party vendor support is withdrawn.¹⁰²⁰
966. In the Respondents' Second Post Hearing Brief, the Counterclaimants withdraw the claim for additional works referred to the vent/flare system and update the amount of their prolongation costs claim.¹⁰²¹
967. The final total amount of the claims for additional works under the Equipment Contract is USD 6,637,011.10, which is broken down as follows:
- (i) Interconnecting pipework: USD 4,057,405.10.¹⁰²²
 - (ii) Bolt changes: USD 508,867.¹⁰²³
 - (iii) Gas composition changes: USD 884,100.¹⁰²⁴
 - (iv) Load out philosophy: USD 495,000.¹⁰²⁵
 - (v) Power generation: USD 255,500.¹⁰²⁶
 - (vi) IEC delay with technical information: USD 164,500.¹⁰²⁷
 - (vii) IEC requests for alternative designs: USD 178,500.¹⁰²⁸
 - (viii) Prolongation costs: USD 33,139.¹⁰²⁹

¹⁰¹³ "Buyer and Seller shall each use reasonable efforts to agree upon the Proposal For Change Order as soon as possible."

¹⁰¹⁴ SoD, ¶¶265-269.

¹⁰¹⁵ Rs' PHB1, ¶¶30, 38, 43, 46.

¹⁰¹⁶ Rs' PHB1, ¶¶31-34.

¹⁰¹⁷ Rs' PHB1, ¶¶35-37.

¹⁰¹⁸ Rs' PHB1, ¶¶38-45.

¹⁰¹⁹ Rs' PHB1, ¶¶47-53.

¹⁰²⁰ It is no longer part of the table at Rs' PHB1, ¶46; see Mr Hillier's presentation "Overview of my Independent Expert Opinion on Project Execution and Quantum Matters," used at the Hearing on 19 December 2019, p. 38.

¹⁰²¹ Rs' PHB2, ¶108.

¹⁰²² Rs' PHB2, ¶111.

¹⁰²³ Rs' PHB2, ¶116.

¹⁰²⁴ Rs' PHB2, ¶122.

¹⁰²⁵ Rs' PHB2, ¶125.

¹⁰²⁶ Rs' PHB2, ¶128.

¹⁰²⁷ Rs' PHB2, ¶132.

¹⁰²⁸ Rs' PHB1, ¶38, Table 4.

¹⁰²⁹ Rs' PHB2, ¶136.

(ix) Escalation of manhour rates: USD 60,000.¹⁰³⁰

968. The final total amount of the claims for additional works under the Services Agreement remains unchanged with respect to the Respondents' First Post-Hearing Brief, at USD 11,475,565.88, which is broken down as follows:¹⁰³¹

(i) Additional support services: USD 9,415,672.

(ii) Additional 3rd party support services at site: USD 773,286.

(iii) 3rd party strikes at site: USD 156,750.

(iv) Care and custody audit and rectification activities: USD 310,258.11.

(v) Defective materials management: USD 258,231.77.

(vi) Accommodation and transportation: USD 157,468.

(vii) Coordination and project schedule: USD 403,900.

2. IEC's position

969. In the Statement of Claim, IEC submits that "[t]he Contracts include very specific provisions governing change requests" and that "GE's failure to present requests for change orders for much of its alleged additional performance precludes it from pursuing such alleged claims now." IEC adds that "Claimants' refusal of requests that were made equally preclude GE from nonetheless unilaterally deciding to implement them and be paid."¹⁰³²

970. In addition to the general argument that the contractual change-order requirements were not complied with, IEC makes further submissions in opposition to each of GEOG's claims for additional works under the Equipment Contract (for interconnecting pipework,¹⁰³³ for bolt changes,¹⁰³⁴ gas composition,¹⁰³⁵ load out philosophy,¹⁰³⁶ power generation,¹⁰³⁷ IEC's delay with technical information,¹⁰³⁸ IEC's requests for alternative designs,¹⁰³⁹ vent/flare systems,¹⁰⁴⁰

¹⁰³⁰ Rs' PHB1, ¶138, Table 4.

¹⁰³¹ Rs' PHB2, ¶137; Rs' PHB1, ¶¶46.

¹⁰³² SoC, ¶421; see also SoC, ¶¶421-426; Cs' PHB1, ¶¶201-204.

¹⁰³³ SoC, ¶¶432-438.

¹⁰³⁴ SoC, ¶¶439-444.

¹⁰³⁵ SoC, ¶¶445-448.

¹⁰³⁶ SoC, ¶¶449-452.

¹⁰³⁷ SoC, ¶¶453-455.

¹⁰³⁸ SoC, ¶¶456-458.

¹⁰³⁹ SoC, ¶¶459-460.

¹⁰⁴⁰ SoC, ¶¶461-462.

BOG compressor inlet,¹⁰⁴¹ LNG train control system spares¹⁰⁴² and additional costs related to extension of time, prolongation, acceleration and disruption¹⁰⁴³).

971. Likewise, IEC makes submissions in opposition to each of GE Nigeria's claims for additional works under the Services Agreement (for additional support services at site,¹⁰⁴⁴ additional third party support services at site,¹⁰⁴⁵ third party strikes at site,¹⁰⁴⁶ third party vendor support,¹⁰⁴⁷ care and custody audit and rectification activities and defective material management,¹⁰⁴⁸ accommodation and transportation,¹⁰⁴⁹ coordinated project schedule¹⁰⁵⁰ and compensation for extended period on site¹⁰⁵¹).

972. In the Statement of Reply, IEC addresses GEOG's argument that IEC has waived reliance on the contractual change order requirements as follows:

"But the problem for GE/BHGE is two-fold. First, the Equipment Contract and the Services Contract both contain express provisions prohibiting oral waivers. Second, Claimants made it clear from the very beginning of the project that compliance with the Change Order provisions would be strictly enforced.

[...]

Respondents also conclusorily contend that Claimants requested or directed all of the additional work that Respondents now claim they carried out. And that Claimants promised to subsequently have commercial discussions concerning payment. Neither of those contentions is true.

The very nature of GE/BHGE's counterclaims demonstrate that Claimants never made any such requests or gave any such directions. For example, the majority of Respondents' counterclaims are based on allegations that Claimants failed in their obligations, thereby requiring Respondents to incur additional costs. Because Respondents do not, and cannot, point to any express request from Claimants to carry out the alleged additional work, they have no claim for change orders.

¹⁰⁴¹ SoC, ¶¶463-464.

¹⁰⁴² SoC, ¶¶465-466.

¹⁰⁴³ SoC, ¶¶467-469.

¹⁰⁴⁴ SoC, ¶¶471-473.

¹⁰⁴⁵ SoC, ¶¶474-479.

¹⁰⁴⁶ SoC, ¶¶480-483.

¹⁰⁴⁷ SoC, ¶¶484-489.

¹⁰⁴⁸ SoC, ¶¶490-493.

¹⁰⁴⁹ SoC, ¶¶494-496.

¹⁰⁵⁰ SoC, ¶¶497-498.

¹⁰⁵¹ SoC, ¶499.

*Similarly, Claimants never requested additional work and then promised to have 'commercial discussions' at a later date. The meeting minutes and summaries that Respondents rely upon do not support their assertion."*¹⁰⁵²

973. As to GEOG's unjust-enrichment argument, IEC replies the following:

"Respondents' unjust enrichment theory fails for the independent reason that, as they themselves acknowledge, '[t]he existence of a valid and enforceable written contract governing a particular subject matter ordinarily precludes recovery in quasicontract for events arising out of the same subject matter.'

Respondents' attempt to evade this prohibition by asserting that it does not apply where the alleged work was never the subject of the parties' agreement, fails where, as here, 'there exists a contract governing how payment for extra work will be determined.'"¹⁰⁵³

974. In addition to the general discussion on the contractual change-order requirements, waiver and unjust enrichment, IEC makes further submissions in opposition to each of GEOG's claims for additional works under the Equipment Contract (for interconnecting pipework,¹⁰⁵⁴ for bolt changes,¹⁰⁵⁵ gas composition,¹⁰⁵⁶ load out philosophy,¹⁰⁵⁷ power generation,¹⁰⁵⁸ IEC's delay with technical information,¹⁰⁵⁹ IEC's requests for alternative designs,¹⁰⁶⁰ vent/flare systems,¹⁰⁶¹ BOG compressor inlet,¹⁰⁶² LNG train control system spares,¹⁰⁶³ additional costs related to extension of time, prolongation, acceleration and disruption,¹⁰⁶⁴ delayed payment and delays in change order approval and payment¹⁰⁶⁵ and rates escalation¹⁰⁶⁶).

975. Likewise, IEC makes submissions in opposition to each of GE Nigeria's claims for additional works under the Services Agreement (for additional support services at site,¹⁰⁶⁷ additional third party support services at site,¹⁰⁶⁸ third party strikes at site,¹⁰⁶⁹ third party vendor support,¹⁰⁷⁰ care

¹⁰⁵² SoR, ¶¶571-575.
¹⁰⁵³ SoR, ¶¶578-579.
¹⁰⁵⁴ SoR, ¶¶586-589.
¹⁰⁵⁵ SoR, ¶¶590-592.
¹⁰⁵⁶ SoR, ¶¶593-603.
¹⁰⁵⁷ SoR, ¶604.
¹⁰⁵⁸ SoR, ¶605.
¹⁰⁵⁹ SoR, ¶¶606-615.
¹⁰⁶⁰ SoR, ¶¶616-622.
¹⁰⁶¹ SoR, ¶¶623-626.
¹⁰⁶² SoR, ¶¶627-632.
¹⁰⁶³ SoR, ¶¶633-640.
¹⁰⁶⁴ SoR, ¶¶641-650.
¹⁰⁶⁵ SoR, ¶651.
¹⁰⁶⁶ SoR, ¶¶652-564.
¹⁰⁶⁷ SoR, ¶¶655-659.
¹⁰⁶⁸ SoR, ¶¶660-663.
¹⁰⁶⁹ SoR, ¶¶664-668.
¹⁰⁷⁰ SoR, ¶¶669-672.

and custody audit and rectification activities and defective material management,¹⁰⁷¹ accommodation and transportation,¹⁰⁷² coordinated project schedule¹⁰⁷³ and compensation for extended period on site¹⁰⁷⁴).

976. In the Claimant's First Post-Hearing Brief, IEC makes further submissions in opposition to some of GEOG's claims for additional works under the Equipment Contract (for interconnecting pipework,¹⁰⁷⁵ for bolt changes,¹⁰⁷⁶ gas composition,¹⁰⁷⁷ IEC's delay with technical information,¹⁰⁷⁸ vent/flare systems,¹⁰⁷⁹ prolongation¹⁰⁸⁰).
977. Likewise, IEC makes submissions in opposition to some of GE Nigeria's claims for additional works under the Services Agreement (for additional support services at site,¹⁰⁸¹ additional third party support services at site¹⁰⁸² and third party vendor support¹⁰⁸³).

3. Arbitral Tribunal's analysis

a. Claims for prolongation and escalation of manhour rates

978. GEOG lists its claims for prolongation and escalation of manhour rates among its claims for "*additional work required by IEC.*"¹⁰⁸⁴ However, it also explains that these are costs associated with the sought extension of time.¹⁰⁸⁵
979. While GEOG does not explicitly state the contractual basis of its claims for prolongation and escalation of manhour rates, the Arbitral Tribunal understands that these claims are adjustments sought in accordance with Clause 6.3 of the Equipment Contract, which provides that if IEC is to grant an extension of time it is also to grant a "*Contract Price adjustment as may be necessary and equitable to account for the delay suffered by Seller.*"¹⁰⁸⁶
980. Thus the Arbitral Tribunal shall analyze these two claims separately, before analyzing the Counterclaimants' actual claims for changes/additional works.

¹⁰⁷¹ SoR, ¶¶673-678.

¹⁰⁷² SoR, ¶¶679-686.

¹⁰⁷³ SoR, ¶¶687-689.

¹⁰⁷⁴ SoR, ¶690.

¹⁰⁷⁵ Cs' PHB1, ¶217.

¹⁰⁷⁶ Cs' PHB1, ¶¶218-219.

¹⁰⁷⁷ Cs' PHB1, ¶¶220-222.

¹⁰⁷⁸ Cs' PHB1, ¶¶223-224.

¹⁰⁷⁹ Cs' PHB1, ¶225.

¹⁰⁸⁰ SoR, ¶¶641-650.

¹⁰⁸¹ Cs' PHB1, ¶228-230.

¹⁰⁸² Cs' PHB1, ¶231-232.

¹⁰⁸³ Cs' PHB1, ¶233-234.

¹⁰⁸⁴ See Rs' PHB1, ¶38, Table 4.

¹⁰⁸⁵ SoCC, ¶195.

¹⁰⁸⁶ See SoCC, ¶195.

981. As explained above,¹⁰⁸⁷ GEOG is not entitled to an extension of time for it has not given notice in writing of its claim for an extension of time, within seven Working Days after the date when the event became known to GEOG's personnel working on the Rumuji Plant, as required under Clause 6.3 of the Equipment Contract.

982. Hence, the claims for prolongations and escalation of manhour rates are dismissed.

b. Change order provisions in the Contracts

983. The Counterclaimants plead and analyze their claims for additional works primarily as "*entitlements under Clause 24 of the Equipment Contract and Clause 25 of the Services Contract.*"¹⁰⁸⁸ These provisions deal with Changes. Clause 1 of the Equipment Contract defines Change as "*any modification to the Plant.*" In turn, Clause 1.1 of the Services Agreement defines Change as "*any modification to the Services, which is agreed in accordance with Clause 25.*"

984. These definitions, read in conjunction with Clause 24.2 of the Equipment Contract and Clause 25 of the Services Contract, respectively, make clear that any modification of the scope of supply/services with any associated costs are Changes subject to Clause 24 of the Equipment Contract and Clause 25 of the Services Contract, respectively. The foregoing is consistent with the Parties understanding as evidenced throughout their pleadings in this arbitration.

985. As regards the Equipment Contract, the Arbitral Tribunal considers that, absent an agreed change order, any claims for additional costs for changes are excluded by Clause 24.2 of the Equipment Contract, the last sentence of which reads:

"No Change shall be made by Seller without a Change Order from Buyer, signed by representatives of each Party who have actual authority to legally bind Buyer or Seller and which Change Order will subsequently become an integral part of the Agreement."

986. This provision is unambiguous, and the Arbitral Tribunal cannot concur with GEOG's view that compliance with the Clause 24 of the Equipment Contract is not a condition precedent for claims for additional work¹⁰⁸⁹ and that "*the change provisions of the Contracts are 'liberal' rather than 'strict' notice provisions.*"¹⁰⁹⁰

987. The language of Clause 25 of the Services Agreement differs from that of Clause 24 of the Equipment Contract, but the spirit of both provisions is the same. Absent an agreed change

¹⁰⁸⁷ §X.B.1.c(3).

¹⁰⁸⁸ SoD, ¶255.

¹⁰⁸⁹ SoD, ¶¶240-254.

¹⁰⁹⁰ SoD, ¶244.

order, GE Nigeria was not required to provide any services in excess of the contractual scope.¹⁰⁹¹

Further:

"If mutually agreed, the changes will be documented in a written document signed by representatives of each Party who have actual authority to legally bind Buyer or Services Provider, along with any equitable adjustments in the Contract Price or the Time For Completion."

988. It follows that absent such documented mutual agreement, GE Nigeria is barred from making claims for additional costs.

c. Waiver/Estoppel

989. Further, the Arbitral Tribunal is not persuaded by the Counterclaimants' argument that IEC has waived and/or is estopped from relying on the contractual requirements for contractual changes by directing the GE Entities to perform work based on the representation that it would fairly compensate them for additional work.¹⁰⁹² The Arbitral Tribunal does not find that IEC made such representations but, on the contrary, it generally made explicit that it considered the works it requested GEOG to perform to be within the scope of the respective Contract.
990. Only in the case of the ICP does the Arbitral Tribunal find that IEC has acknowledged GEOG's right to pursue this claim despite there not being a change order, when it stated, in a communication of 12 February 2016:

*"With installation of the Plants in Rumuji progressing fast, the interconnecting pipes, tubing and cables for the second Plant will be needed on site in the next few weeks. This means that any delay in shipment of these components will delay completion of the entire project. We therefore request that you immediately release the equipment for shipment (or order and ship it in case of the cables), **without prejudice to your rights to maintain your position (i.e. that additional payment is required)**. If we cannot subsequently resolve the matter on some amicable/commercial basis, it can then be resolved under the dispute resolutions of the Contract. At present, however, there is absolutely no reason why GE should not comply with this request, especially since IEC has always fulfilled all its (financial) obligations under the Contracts with GE. Moreover,*

¹⁰⁹¹ "Services Provider is not obligated to proceed with the changed schedule or scope until both Parties agree to such change in writing."

¹⁰⁹² SoD, ¶¶239, 250, 255-259.

*IEC has posted financial security which more than covers the cost of the interconnecting pipes, tubing and cables.”*¹⁰⁹³

991. But, as explained above,¹⁰⁹⁴ the ICP is within the original scope of the Equipment Contract and, therefore, GEOG can claim no compensation in excess of the Contract Price.
992. In contrast to the ICP, for the other items of additional works claimed for by the GE Entities the Arbitral Tribunal has not been pointed to any statements by IEC that could be interpreted as a waiver or as a basis for IEC being estopped from relying on the contractual requirements for contractual changes.
993. As pointed out by IEC,¹⁰⁹⁵ both Contracts stipulate that no waiver “*shall be binding on either Party unless agreed to in writing by the Parties’ authorized representatives.*”¹⁰⁹⁶

(1) Equipment Contract

994. In particular, as regards the claims for additional work under the Equipment Contract:

(a) Bolt Changes

995. There is a suggestion made by IEC in this regard in a communication of 7 October 2016 “*that each side simply reserves its rights for now in connection with responsibility for the current situation (in the event no final agreement/solution is reached), but that we otherwise focus our efforts on an acceptable rectification of the situation which will enable us to put this matter behind us.*”¹⁰⁹⁷ However, this statement was made in the context of the negotiation of an agreement which at the end was not concluded.¹⁰⁹⁸ The evidence submitted by GEOG only shows that an agreement was reached with regard to the correction of certain minor items but not with regard to the substitution of galvanized bolts.¹⁰⁹⁹ GEOG asserts that, eventually, “*for the works’ progress, GEOG did deliver the galvanized nuts/bolts/washers and did employ local labour with GEOG’s supervision to replace the black bolts as required by IEC.*”¹¹⁰⁰ But there is no link between GEOG delivering and replacing the bolts and the aforementioned agreement for the correction of certain minor items, in the context of which statements were made that could amount to a waiver. Thus, there is no evidence on the record that could be interpreted as a waiver or as a basis for IEC being estopped from relying on the contractual requirements for

¹⁰⁹³ Exhibit R-99, emphasis added; as pre-discussed with IEC (see Exhibit C-413), GEOG confirmed by letter of 15 February 2016 (Exhibit R-100).

¹⁰⁹⁴ §X.B.1.d(3).

¹⁰⁹⁵ SoR, ¶571.

¹⁰⁹⁶ Clause 30.2 of the Equipment Contract and Clause 30.2 of the Services Agreement.

¹⁰⁹⁷ Exhibit R-4b, Attachment X2-3.

¹⁰⁹⁸ See Exhibit R-4b, Attachments X2-1 to X2-7.

¹⁰⁹⁹ See Exhibit R-4a, ¶¶X.2.2.13-X.2.2.15 and Exhibit R-4b, Attachment X2-8.

¹¹⁰⁰ Exhibit R-4a, ¶X.2.2.15.

contractual changes with regard to the bolt changes. On the contrary, as explained above,¹¹⁰¹ there is evidence that GEOG replaced the bolts after accepting responsibility for such replacement.

(b) Gas Composition Changes

996. GEOG's claims are for the costs of attending to fifteen requests made by IEC between 2 December 2014 and 15 March 2018,¹¹⁰² for assessment of the impact of different potential gas compositions.

997. On the occasion of the second inquiry of 12 January 2015, the parties discussed the contractual treatment of IEC's requests. GEOG first expressed the position that a change order is required:

"If the study is for an additional gas source for trains 1 and 2, this represents a change to our existing contract. We will need a change order to perform additional analyses and studies [...]"¹¹⁰³

998. IEC replied that GEOG had agreed to attend to such requests as part of the scope of the Equipment Contract:

"I like to remind you that GE made it clear that we can NOT get the hysys native file.

But as compensation GE will run a hysys simulation every time we ask for it. There is no need for COR or whatever. I can not remember that we agreed to define the reason why we need a hysys run, so I don't get the clue of this email.

Our request is simple please run this gas composition in hysys with the parameters of the existing plant."¹¹⁰⁴

999. GEOG replied

"GE agreed verbally to run Hysys simulations during contract negotiations, true. Our plan is as follows.

[...] We will agree to run a 'first pass analysis' [...], and upon your request, we can run a deeper analysis. But since a full analysis typically requires several days [...]. We will need to ask for schedule relief (therefore change order)."¹¹⁰⁵

¹¹⁰¹ ¶642.

¹¹⁰² See Exhibit RER-16, ¶5.6.3.3.

¹¹⁰³ Exhibit C-128, Email from Michael Cohen of 14 January 2015.

¹¹⁰⁴ Exhibit C-128, Attachment X3-2, Email from Werner Pirijns of 14 January 2015.

¹¹⁰⁵ Exhibit C-128, Email from Michael Cohen of 15 January 2015.

1000. The issue resurfaced again in early 2016, in connection with an output from Hysys provided by GEOG on 10 February 2016.¹¹⁰⁶ GEOG explained to IEC on 16 February 2016:

"What we presented last week is a preliminary Hysys analysis on the alternate gas. The next step, should you wish to move forward based upon your review of this preliminary analysis, is for GE to perform a complete analysis of the plant with this alternate gas. [...]"

*I will convert the required engineering hours into a proposal to IEC, and will submit [...]."*¹¹⁰⁷

1001. GEOG followed up on 25 February 2016 by submitting a Proposal for Change Order priced at USD 203,000.¹¹⁰⁸

1002. IEC did not accept the Proposal for Change Order¹¹⁰⁹ and Mr Hillier, IEC's expert, explained in this regard *"I understand the outcomes of these discussions was GEOG's work did proceed but not to the extent envisaged in the letter of 25 February 2016."*¹¹¹⁰

1003. As regards the remaining fourteen requests, GEOG did not submit any contemporary Proposals for Change Orders upon receiving any of those requests but only claimed for these alleged Changes later, in its global Proposal for Change Order of 29 June 2018.¹¹¹¹ Absent contemporary Proposals for Change Orders, IEC was entitled to consider that the analyses performed by GEOG were "first pass analyses" which were included within the scope of the Equipment Contract as per the verbal agreement during contract negotiations. There is no evidence to support GEOG's allegation that *"IEC requested not only looksee analysis, but complete evaluations of different gas compositions."*¹¹¹² And the allegation is inconsistent with GEOG's failure to submit contemporary Proposals for Change Orders.

1004. IEC never waived its right to rely in this regard on the contractual requirements for contractual changes.

(c) Load Out Philosophy

1005. The Arbitral Tribunal does not need to decide whether the changes in load out process were covered by the Change Order Request No. 27, of 3 July 2015,¹¹¹³ as claimed by IEC,¹¹¹⁴ or not,

¹¹⁰⁶ Exhibit R-208, Email from Michael Cohen of 10 February 2016.

¹¹⁰⁷ Exhibit R-208, Email from Michael Cohen of 16 February 2016.

¹¹⁰⁸ Exhibit R-146; the proposal states that *"GE will perform the work after receipt of: Signed change order, [...]"*.

¹¹⁰⁹ Exhibit R-209, Email from Werner Pirijns of 27 February 2016,

¹¹¹⁰ Exhibit RER-16, ¶5.6.3.2.

¹¹¹¹ Exhibit R-4.

¹¹¹² Rs' PHB2, ¶119.

¹¹¹³ Exhibit C-15.

¹¹¹⁴ SoC, ¶¶451-452.

as maintained by GEOG.¹¹¹⁵ Regardless, the Arbitral Tribunal has not been pointed to any statements by IEC that could be interpreted as a waiver or as a basis for IEC being estopped from relying on the contractual requirements for contractual changes with regard to the load out philosophy issue. In fact, none of the Parties submitted contemporary evidence regarding this alleged change. Finally, the factual account in the Respondents' Quantum Report of 28 June 2018¹¹¹⁶ does not contain anything that could serve as a basis for waiver or estoppel.

(d) Power Generation

1006. The Arbitral Tribunal concurs with IEC's assessment¹¹¹⁷ that if GEOG considered that the uncertainties around the interface between the Trains and the power generation package gave rise to works in excess of the scope of the Equipment Contract, it should have raised the issue before making any change, i.e. before carrying out the additional work. At the very latest, IEC should have raised the issue on occasion of the negotiation of Change Order Request No. 27, of 3 July 2015,¹¹¹⁸ which dealt with power-related disputes.
1007. GEOG's objection that "*in the July 2015 Change Order there is no waiver of previous claims*"¹¹¹⁹ goes astray. The point is that GEOG's June 2018 claim is untimely, as it refers to additional work performed before July 2015.
1008. The Arbitral Tribunal has not been pointed to any statements by IEC that could be interpreted as a waiver or as a basis for IEC being estopped from relying on the contractual requirements for contractual changes with regard to power generation issue.

(e) IEC Delay with Technical Information

1009. The Arbitral Tribunal has not been pointed to any statements by IEC that could be interpreted as a waiver or as a basis for IEC being estopped from relying on the contractual requirements for contractual changes with regard to the delay by IEC with technical information.

(f) IEC Requests for Alternative Designs

1010. The Arbitral Tribunal has not been pointed to any statements by IEC that could be interpreted as a waiver or as a basis for IEC being estopped from relying on the contractual requirements for contractual changes with regard to the requests for alternative designs.

¹¹¹⁵ Rs' PHB2, ¶123.

¹¹¹⁶ Exhibit R-4a, ¶¶X4.2.1-X.4.14.

¹¹¹⁷ SoC, ¶¶453-454; see also SoR, ¶605.

¹¹¹⁸ Exhibit C-15.

¹¹¹⁹ Rs' PHB2, ¶126.

(g) BOG Compressor Inlet

1011. The Arbitral Tribunal has not been pointed to any statements by IEC that could be interpreted as a waiver or as a basis for IEC being estopped from relying on the contractual requirements for contractual changes with regard to the BOG compressor inlet.

(h) LNG Train Control System Spares

1012. The Arbitral Tribunal agrees with IEC that this is not an actual change.¹¹²⁰ Although GEOG included this claim within its “Change Order Requests” in the Quantum Report of 28 June 2018,¹¹²¹ this claim, as pled by GEOG, does not appear to be based on a change to the scope of the Equipment Contract but on a separate supposed request for the procurement of spare parts as foreseen in Clause 10.4. of the Equipment Contract, which provides that GEOG shall ensure that Strategic Parts remain available for a period of ten years after Taking Over. Hence, this claim is not dismissed on the grounds that it is excluded by Clause 24.2 of the Equipment Contract.

1013. However, the claim is dismissed for other reasons. GEOG alleges that “*when the control system supplier decided to discontinue its production, upon agreement with IEC, GEOG purchased these key spare parts.*”¹¹²² Had the purchase of the spare parts been agreed upon between GEOG and IEC, GEOG might be entitled to compensation. However, while IEC acknowledges that it has received those spare parts from GEOG,¹¹²³ it contests that this was based on an agreement between IEC and GEOG. IEC alleges that “[t]his was not requested by Claimants” but “*is management by GE of its own risk*” under Clause 10.4 of the Equipment Contract.¹¹²⁴ The Arbitral Tribunal considers that GEOG has not discharged its burden of proof in this regard. Mr Pagliaro has testified that GEOG purchased the spare parts “*upon agreement with IEC*”¹¹²⁵ but he did not provide any specifics about this supposed agreement. GEOG’s Quantum Report of 18 June 2018 only mentions “*In the monthly meeting on 6/7 December 2017, GEOG and IEC discussed the issue of the ‘Alan Bradley’ critical spares and the options available to deal with this.*”¹¹²⁶ But it also states that after finding out that the Alan Bradley hardware would ceased to be manufactured, “*as a prudent measure, early in 2018, GEOG purchased the key critical spare parts from ‘Alan Bradley’ exclusively for this IEC project*”¹¹²⁷ and that “*GEOG took the*

¹¹²⁰ SoC, ¶465.

¹¹²¹ Exhibit R-4a, ¶X10.

¹¹²² SoCC, ¶192.

¹¹²³ SoC, ¶465.

¹¹²⁴ SoC, ¶465.

¹¹²⁵ Exhibit RWS-4, ¶96.

¹¹²⁶ Exhibit R-4a, ¶X10.1.3.

¹¹²⁷ Exhibit R-4a, ¶X10.2.4.

reasonable, appropriate action of purchasing the critical control system hardware spares on behalf of IEC." Thus, the evidence on the record suggests that rather than a request or instruction by IEC for GEOG to purchase the spare parts, GEOG decided to purchase them on its own motion. Perhaps the issue was discussed between GEOG and IEC on 6/7 December 2017 but there is no evidence on the record that IEC ever agreed to the course of action eventually decided by GEOG. Hence, the Arbitral Tribunal finds that, unless IEC agrees to purchase the spare parts, or proceeds to use them or refuses to hand them back over to GEOG upon GEOG's request, GEOG is not entitled to claim any payment.

(2) Services Agreement

1014. As regards the Services Agreement, the Arbitral Tribunal does not share the Counterclaimants' view that when the parties reached an agreement in a meeting in Florence on 9 November 2016 regarding certain commitments by the GE Entities, it was "*clear that any works that fell outside of the Services Contract were extra work subject to additional compensation from IEC.*"¹¹²⁸ The Counterclaimants rely in this regard on an email exchange of 18-21 November 2016, in which it was stated "*GE and IEC to review jointly whether the above works under the Services Agreements.*"¹¹²⁹ In the Arbitral Tribunal's view, the Counterclaimants overstretch the meaning of this sentence. The sentence only reflects the parties' intention to jointly review whether the works agreed were within or without the scope of the Services Agreement. It does not go as far as to suspend the application of Clause 25 of the Services Agreement. Had the parties wished to do so, they should have clearly stated that the GE Entities would perform the works as agreed, without prejudice to their right to claim for additional payment to the extent the works are in fact beyond the scope of the Services Agreement, as they in fact did with respect to the delivery of the ICP.¹¹³⁰
1015. Further, the Arbitral Tribunal observes that, in a letter of 27 September 2017, GEOG stated "*We reserve all of our rights and remedies in this regard, including to charge IEC for any extra-work carried out so far.*"¹¹³¹ However, a unilateral reservation of rights by GEOG or GE Nigeria cannot entail a waiver by IEC or serve as a basis for IEC being estopped from relying on the contractual requirements for contractual changes, especially not if the reservation of rights is made after the fact, i.e. if it refers to alleged extra-work that has already been carried out in the past ("*so far*").

¹¹²⁸ SoCC, ¶164.

¹¹²⁹ Exhibit R-69.

¹¹³⁰ See above, ¶990.

¹¹³¹ Exhibit R-003b, Attachment Y8-1, p. 3.

1016. For none of the individual claims by GE Nigeria has the Arbitral Tribunal seen any statements by IEC that could be interpreted as a waiver or as a basis for IEC being estopped from relying on the contractual requirements for contractual changes.

1017. In particular:

(a) Additional Support Services

1018. It is not clear to the Arbitral Tribunal whether the Counterclaimants consider this claim to be based on a change to the scope of the Services Agreement, as per Clause 25, or on a call of Additional Employees, as per Clause 5.2(ii).

1019. The Statement of Claim refers¹¹³² in this regard to the first Hillier expert report, which analyses the claim as resulting from a change order.¹¹³³ Likewise, GEOG's Quantum Report of 18 June 2018 states that *"In accordance with the Services Contract, this Change Order request followed an instruction and various additional and changes requirements issues by IEC to GEN with respect to additional employees."*¹¹³⁴ However GEOG's Quantum Report of 18 June 2018 also states, with express reference to Clause 5.2(ii).¹¹³⁵ that "[a]ny employees who any [sic] complete works over and above the contracted amount period (i.e. 13 weeks and 3 people) falls within the contractual definition of 'additional employees' and GEN was entitled to charge their time on an hourly basis up to a maximum of 10 hours per day."¹¹³⁶

1020. In either case, for GE Nigeria to be entitled to claim for the additional scope/the Additional Employees, it would have to show either that a change order request was agreed or that IEC submitted a written request calling Additional Employees under Clause 5.2(ii) of the Services Agreement. Neither is the case.

1021. Indeed, GE Nigeria's own account shows that there was no actual request by IEC or agreement with IEC to set in motion the provision of services by GE Nigeria employees in excess of the Base Employees package:

"However, as time progressed, those GEN site based personnel became more involved with IEC's requests Work [sic] outside the scope of the Services Contract, for example, assisting IEC with installation and construction activities at site and with IEC's pre-commissioning exercises. This resulted in GEN employees continuing to expend

¹¹³² SoC, ¶202.

¹¹³³ Exhibit R-7, §6.4.

¹¹³⁴ Exhibit R-3a, ¶Y.1.5.3.

¹¹³⁵ Exhibit R-3a, ¶Y.1.5.2, Footnote 22.

¹¹³⁶ Exhibit R-3a, ¶Y.1.5.2.

hours of work after extinguishment of the 'base employee' (3 people working for 13 weeks).

Therefore, a reasonable assessment is required to appropriately apportion the allocation of manhours executed by GEN personnel at site between the Parties.

*Such allocation is not straightforward because there was **no clear point of transition**. GEN's team undertook the works required, irrespective of whether they were GEN's or IEC's responsibility. Hence, there has been no contemporaneous allocation of time between the Parties on the respective timesheets."*¹¹³⁷

1022. Neither was there any statement by IEC that could be deemed a waiver or a basis for estoppel from relying on the contractual requirements for contractual changes or for calling Additional Employees.

(b) Additional 3rd party support services at site

1023. GE Nigeria has asserted that "[a]fter discussions with IEC, GEN undertook to provide the remaining / missing full scope of these [additional third party support] services on the basis that it would be reimbursed for the costs incurred in the provision of such services and equipment by IEC."¹¹³⁸
1024. IEC denies that there is any "indication that GE provided any notice to Claimants of their intent to procure these services before they were acquired."¹¹³⁹
1025. The Arbitral Tribunal has not been pointed to any evidence of an understanding between GE Nigeria and IEC which could be deemed a waiver or a basis for estoppel from relying on the contractual requirements for contractual changes.

(c) Third party strikes at site

1026. The Arbitral Tribunal agrees with IEC that his claim does not appear to be a Change.¹¹⁴⁰ However, given that GE Nigeria frames the claim this way, the Arbitral Tribunal shall assess is in accordance with Clause 25 of the Services Agreement.
1027. GE Nigeria has asserted that "[t]hese amounts have been previously detailed to IEC (with multiple requests for IEC to consider said changes under the Services Contract without

¹¹³⁷ Exhibit R-3a, ¶¶Y.1.6.5-Y.1.6.7, emphasis added.

¹¹³⁸ Exhibit R-3a, ¶Y2.3.2.

¹¹³⁹ SoC, ¶476.

¹¹⁴⁰ SoC, ¶481.

reciprocating review by IEC. By this document GEN reiterates its previous requests for a Change Order.”¹¹⁴¹

1028. Hence, by GE Nigeria’s own account, IEC has not agreed to a change order request in this regard.

1029. And the Arbitral Tribunal has not been pointed to any evidence of an understanding between GE Nigeria and IEC which could be deemed a waiver or a basis for estoppel from relying on the contractual requirements for contractual changes.

(d) Care and custody audit and rectification activities

1030. GE Nigeria has asserted that it “*submitted a change order request related to compensation to GEN for these additional works*” and that “*such change order has not been given the fair and sufficient review required under the Services Contract.*”¹¹⁴²

1031. Again, by GE Nigeria’s own account, IEC has not agreed to a change order request in this regard.

1032. And the Arbitral Tribunal has not been pointed to any evidence of an understanding between GE Nigeria and IEC which could be deemed a waiver or a basis for estoppel from relying on the contractual requirements for contractual changes.

(e) Defective materials management

1033. GE Nigeria has asserted that it “*submitted a change order request compensation for these additional works*” and that “*such change order has not been given the fair and sufficient review required under the Services Contract.*”¹¹⁴³

1034. Again, by GE Nigeria’s own account, IEC has not agreed to a change order request in this regard.

1035. And the Arbitral Tribunal has not been pointed to any evidence of an understanding between GE Nigeria and IEC which could be deemed a waiver or a basis for estoppel from relying on the contractual requirements for contractual changes.

(f) Accommodation and transportation

1036. GE Nigeria has asserted that “[a]fter discussions with IEC, GEN undertook to provide the missing accommodation and supporting security transportation scope of these services on the basis that

¹¹⁴¹ Exhibit R-3a, ¶¶Y3.1.3.

¹¹⁴² Exhibit R-3a, ¶¶Y5.1.5.

¹¹⁴³ Exhibit R-3a, ¶¶Y6.1.3.

it would be reimbursed for the costs incurred in the provision of such services and equipment by IEC.”¹¹⁴⁴

1037. However, this generic statement is not supported by any specific allegations or evidence. And, in any event, the Arbitral Tribunal has not been pointed to any evidence of an understanding between GE Nigeria and IEC which could be deemed a waiver or a basis for estoppel from relying on the contractual requirements for contractual changes.

(g) Coordination and project schedule

1038. GE Nigeria has asserted that “*GEN has fulfilled IEC’s requirement for a Project Schedule and has, through this schedule, provided ongoing updates of the works since early 2017*” and that “*GEN made it clear to IEC that GEN had no contractual obligation to perform such activities and that GEN considered this request by IEC to be additional works.*”¹¹⁴⁵

1039. This generic statement is not supported by any specific allegations or evidence. In fact, as pointed out by IEC, the available evidence suggests that it was GE Nigeria or GEOG who initiated the decision to bring on a scheduler.¹¹⁴⁶ This was confirmed by Mr Kassem, who testified that “*GEOG took the initiative to employ an overall project Planner.*”¹¹⁴⁷ Further, in a letter of 27 September 2017, GEOG stated:

“In line with our commitment we issued the integrated Schedule highlighting not just the activities within BHGE’s scope but including the interface with the balance of plant (BOP) items. This activity was not part of the original contract obligation of BHGE, but subsequent to our meetings this year we agreed to step up covering this gap in the overall execution.”¹¹⁴⁸

1040. In any event, by GE Nigeria’s own account, IEC has not agreed to a change order request, and the Arbitral Tribunal has not been pointed to any evidence of an understanding between GE Nigeria and IEC which could be deemed a waiver or a basis for estoppel from relying on the contractual requirements for contractual changes.

d. Unjust enrichment

1041. The Parties agree¹¹⁴⁹ on the principle set out in *MacDraw, Inc. v. The CIT Grp. Equip. Fin., Inc.* that “[t]he existence of a valid and enforceable written contract governing a particular subject

¹¹⁴⁴ Exhibit R-3a, ¶¶7.3.2.

¹¹⁴⁵ Exhibit R-3a, ¶¶8.1.4.

¹¹⁴⁶ SoC, ¶497.

¹¹⁴⁷ Exhibit RWS-5, ¶20.

¹¹⁴⁸ Exhibit R-003b, Attachment Y8-1.

¹¹⁴⁹ See SoD, ¶263, and SoR, ¶578.

matter ordinarily precludes recovery in quasi contract, i.e., unjust enrichment, for events arising out of the same subject matter."¹¹⁵⁰

1042. However, the Counterclaimants invoke a decision in which the court supposedly "*allowed unjust enrichment claims where 'the contract does not cover the dispute in issue.'*"¹¹⁵¹ and another decision that "*allowed recovery in quantum meruit for additional work that 'was never the subject of the parties' oral agreement.'*"¹¹⁵² And they argue that "*the additional work the GEOG Entities provided under the Contracts was so far beyond the contractual scope (i.e., and of a different character than merely supplying two modularized Trains and related services) that it is not covered by the Contracts' change provisions.*"¹¹⁵³
1043. First, the Arbitral Tribunal notes that the Counterclaimants do not phrase this assertion in the hypothetical but they in fact posit that their counterclaims for additional works are not covered by the Contracts' change provisions. This is of course irreconcilable with the primary manner in which they plead and analyze their claims for additional works, namely as "*entitlements under Clause 24 of the Equipment Contract and Clause 25 of the Services Contract.*"¹¹⁵⁴
1044. In any event, the Arbitral Tribunal does not agree that supposed additional works are, by reason of their allegedly different character, not covered by the Contracts' change provisions. In *Mid-Hudson Catskill Migrant Ministry, Inc. v. Fine Hosp. Corp.*, relied on by the Counterclaimants, the Court found that the plaintiff cannot blow hot and cold and, in light of the fact that the parties had "*viewed the contract claim as covering all of the volunteers,*"¹¹⁵⁵ it concluded that it "*cannot credit plaintiff's claim before this Court that the work providing the 'extra' volunteers was beyond the scope of its breach-of-contract action.*"¹¹⁵⁶ Similarly, in *Avir Constr., Inc. v. Antiquarium, Ltd.*, the Court found "*Plaintiff's own quantum meruit claim is internally inconsistent in that it incorporates the allegations contained in the breach of contract claim (which allege the existence of a contract) and also states that the extra work was done pursuant to the contract.*"¹¹⁵⁷
1045. In that same decision, the Court found as follows:

"In Clark-Fitzpatrick, as here, 'it is undisputed that the relationship between the parties was defined by a written contract, fully detailing all applicable terms and conditions, and specifically providing for project design changes with adjustments in compensation

¹¹⁵⁰ Exhibit RLA-71.

¹¹⁵¹ SoD, ¶263, quoting from Exhibit RLA-72.

¹¹⁵² SoD, ¶263, quoting from Exhibit RLA-73.

¹¹⁵³ SoD, ¶263.

¹¹⁵⁴ SoD, ¶255.

¹¹⁵⁵ Exhibit RLA-72, *176.

¹¹⁵⁶ Exhibit RLA-72, *177.

¹¹⁵⁷ Exhibit CLA-192, *446-447.

*contemplated in light of those changes' [...]. A contractor cannot bring a quantum meruit claim for extra payments beyond the original contract price where there exists a contract governing how payment for extra work will be determined (Harder v Reedy, 217 AD2d 833)."*¹¹⁵⁸

1046. The Arbitral Tribunal concludes that the situation that gives rise the Counterclaimants' claims for additional work is covered by the Contracts, thus leaving no room for claims of unjust enrichment.

e. Breach of Clause 1.7

1047. The Counterclaimants' claims for damages resulting from the breach by IEC of Clause 1.7 of both Contracts is predicated upon the factual allegation that "*IEC maintained its directions to perform the additional work in circumstances where IEC had represented to the GEOG Entities that it would fairly assess and compensate claims for work performed beyond the scope of the Contracts*" and that it "*maintained its directions to the GEOG Entities to perform that additional work with the knowledge that the GEOG Entities considered it to be beyond the scope of the Contracts and would be seeking compensation.*"¹¹⁵⁹
1048. These are, substantially, the same allegations on the basis of which the Counterclaimants advance their waiver and/or estoppel claims. For the same reasons for which the Arbitral Tribunal already dismissed those claims, it also dismisses this claim. IEC has not waived relying on the contractual requirements for contractual changes nor is it estopped from doing so. And it is not unreasonable for a party to invoke and insist on compliance with such requirements.

f. Conclusion

1049. Thus, all of the Counterclaimants' counterclaims for additional works under the Equipment Contract and the Services Agreement are dismissed.

D. Claims for breach of confidentiality obligations

1. Counterclaimants' position

1050. In the Statement of Counterclaim, the Counterclaimants state that they "*are aware of at least two instances in which IEC has disclosed GEOG confidential intellectual property with third parties, to Cryosys for the manufacture of the HHR system and to Softec for the validation of the flare load table*" and that they "*have reason to believe that IEC has also shared confidential GEOG drawings and documentation with other third parties.*"¹¹⁶⁰

¹¹⁵⁸ Exhibit CLA-192, *446.

¹¹⁵⁹ SoD, ¶266.

¹¹⁶⁰ SoCC, ¶222.

1051. The Counterclaimants submit that the foregoing breached Clause 22 of the Equipment Contract¹¹⁶¹ and they thus request “*request that the Arbitral Tribunal order IEC to (i) cease and desist from disclosure to unauthorized third parties of GEOG Confidential Information, (ii) return to GEOG all original copies of the documents shared with Softec and any other unauthorized third party, and (iii) destroy all copies of such documents in its possession.*”¹¹⁶²

2. IEC’s position

1052. In the Statement of Claim, IEC submits the following:

“GE has known for years that Claimants have had to involve third party agents in connection with this project, including Technip and other engineering consultants to assist with balance of plant issues. Claimants have always taken appropriate steps to protect any Confidential Information. At no point prior to the end of November 2018 — in the midst of this arbitration — has GE ever raised concerns about its supposedly confidential information.

GE raised its purported concerns for the first time with respect to Softec, an Italian engineering firm that had been assisting Claimants to understand how GE had failed to perform the basic stress testing on the structural supports for Trains 1 and 2, and that the supports were in fact inadequate. It is, therefore, not surprising that GE would want Claimants to stop working with Softec. But it has no contractual basis for that demand.

*[...] To date, GE has failed to identify any particular information that qualifies as Confidential Information under the agreements. Rather, it appears to be GE’s position that any documents provided by GE to Claimants is Confidential Information. That is plainly not true, and there are a number of categories of information Claimants receive from GE pursuant to the agreements that it is free to use as needed for the project.”*¹¹⁶³

3. Arbitral Tribunal’s analysis

1053. At the outset, the Arbitral Tribunal notes that this claim, based on Clause 22 of the Equipment Contract, is brought by both GEOG and GE Nigeria.¹¹⁶⁴ However, GE Nigeria has no standing under the Equipment Contract. Thus, the claim by GE Nigeria is dismissed.

1054. When on 28 November 2018 GEOG complained “*that apparently there is not [sic] NDA signed between SOFTEC and BHGE on this project*” and pointed out that “*BHGE documents including*

¹¹⁶¹ SoCC, ¶223.

¹¹⁶² SoCC, ¶225; see also Rs’ PHB1, ¶¶57-58.

¹¹⁶³ SoC, ¶¶503-507.

¹¹⁶⁴ See SoCC, ¶225.

- the 'Flare Load Table', the 'Safeguarding Memorandum Report' and others are not for distribution to other companies or vendors,"*¹¹⁶⁵ IEC replied on 5 December 2018 that its sharing of information with Softec was made *"pursuant to a Non-Disclosure Agreement between IEC and Softec"* and that *"IEC has acted in full compliance with the relevant clauses of the contracts in question"* but it invited GEOG to *"please direct us to the particular contract provisions you feel have been breached so that we can have a more productive dialog."*¹¹⁶⁶
1055. GEOG wrote again on 7 December 2018 stating that *"[t]he collaboration between your company and Softec is likely in violation of Section 22 of the [Equipment Contract],"*¹¹⁶⁷ but it did not point at any particular obligation that might have been breached or at any specific Confidential Information such breach might have referred to.
1056. In its reply of 10 December 2018, IEC pointed out that *"[l]ike your letter of 28 November, your letter of 7 December does not identify any particular Confidential Information (or 'intellectual property') that you believe may have been disclosed in violation of Section 22."*¹¹⁶⁸ Further, IEC repeated that *"Softec is also bound by non-disclosure obligations consistent with Section 22 of the Equipment Contract."*¹¹⁶⁹
1057. Nonetheless, GEOG did not identify any particular Confidential Information it considered disclosed in breach of an obligation in Clause 22 of the Equipment Contract. And its allegations in the present arbitration remain no less generic.
1058. GEOG's allegations regarding Confidential Information allegedly disclosed to Cryosys are even vaguer. Although GEOG supposedly found out about this breach on 6 March 2018,¹¹⁷⁰ it does not appear to have ever raised this issue up until the arbitration. And then it has not pointed at any particular obligation that might have been breached or at any specific Confidential Information such breach might have referred to.
1059. The further statement that *"[t]he GEOG Entities have reason to believe that IEC has also shared confidential GEOG drawings and documentation with other third parties"* is utterly unsubstantiated. In support of the supposed reasons for its belief, GEOG points¹¹⁷¹ at the witness statement by Mr Pagliaro who, however, merely voices a suspicion.¹¹⁷²

¹¹⁶⁵ Exhibit R-94.

¹¹⁶⁶ Exhibit C-760.

¹¹⁶⁷ Exhibit R-127.

¹¹⁶⁸ Exhibit C-759.

¹¹⁶⁹ Exhibit C-759.

¹¹⁷⁰ SoCC, ¶222; Exhibit R-92.

¹¹⁷¹ SoCC, ¶222.

¹¹⁷² Exhibit RWS-4, ¶66.

1060. Absent more specific allegations that would allow the Arbitral Tribunal to assess specific breaches of confidentiality obligations pursuant to Clause 22 of the Equipment Contract, this claim is to be dismissed.

XII. BHGE ENTITIES' COUNTERCLAIMS

A. BHGE Entities' position

1061. In the Statement of Counterclaim, the BHGE Entities claim USD 80,000 in legal costs which they incurred in the proceedings before the United States District Court, Southern District of New York, which were initiated by the Claimants to compel arbitration.¹¹⁷³
1062. In the Statement of Defense, the BHGE Entities increase the amount of this claim to USD 100,198.12.¹¹⁷⁴
1063. In the Respondents' First Post-Hearing Brief, the BHGE Entities point out that *"these costs are due to the Respondents independently of any decision by the Tribunal regarding the BHGE Entities as a party"* and that *"[t]he basis of the claim for these costs is simply the breach of the arbitration agreement in the Contracts."*¹¹⁷⁵

B. IEC's position

1064. In the Statement of Claim, IEC defends the Petition to the United States District Court, Southern District of New York, stating that *"Claimants have a right to a definitive judicial resolution of that issue at the outset of these proceedings."*¹¹⁷⁶
1065. In the Claimants' Second Post-Hearing Brief, IEC adds that *"[t]he award of costs and fees incurred in the New York proceedings was within the authority of the New York court"* and that *"[t]he court did not award BHGE its fees and this Tribunal has no basis to consider it."*¹¹⁷⁷

C. Arbitral Tribunal's analysis

1066. With regard to this claim by the BHGE Entities, for the costs incurred in New York action to compel arbitration, the BHGE Entities have explained:

"What is important to note is that these costs are due to the Respondents independently of any decision by the Tribunal regarding the BHGE Entities as a party. The basis of the

¹¹⁷³ SoCC, ¶¶218-221.

¹¹⁷⁴ SoD, ¶¶273-278.

¹¹⁷⁵ Rs' PHB1, ¶55.

¹¹⁷⁶ SoC, ¶501.

¹¹⁷⁷ Cs' PHB2, ¶157.

claim for these costs is simply the breach of the arbitration agreement in the Contracts."¹¹⁷⁸

1067. The Arbitral Tribunal may not rule that it does not have jurisdiction over this claim, because IEC has not objected to the Arbitral Tribunal's jurisdiction and is precluded from doing so after filing the answering statement to the counterclaim, pursuant to Rule R-7(c) of the Rules.
1068. However, the Arbitral Tribunal may –and has to– find that the BHGE Entities have no standing to bring claims under the Contracts' arbitration agreements. Contrary to the contention by the BHGE Entities, this issue is not independent of the Arbitral Tribunal's decision regarding the BHGE Entities as parties. Given that the Arbitral Tribunal has in fact found that the BHGE Entities are not parties to the Contracts or their arbitration agreements, they have no standing to bring substantive claims for breach of those arbitration agreements.
1069. Thus, the counterclaims brought by the BHGE Entities are dismissed.

XIII. INTEREST

A. IEC's interest claims

1070. IEC seeks interest for the first time in the Claimants' First Post-Hearing Brief.¹¹⁷⁹ Since GEOG did not object this late introduction of this request for interest, the Arbitral Tribunal gives its consent to the new claim pursuant to Rule R-6 of the Rules.
1071. IEC has not specified any dates prior to the issuing of this award from which it requests interest. Thus, the Arbitral Tribunal understands that IEC requests post-award interest.
1072. In this award it is determined that IEC is entitled to receive certain amounts from GEOG under the Equipment Contract, namely,
- (i) USD 4,750,000 as payment of Liquidated Damages for delay in achieving the Delivery Date under Clause 6.5 of the Equipment Contract;
 - (ii) USD 1,375,130.89 as payment of direct damages related to the remediation of defects under Clause 17.4(i) of the Equipment Contract; and
 - (iii) USD 1,084,953.74 as payment of direct damages associated with delayed operation under Clauses 6.6(ii) and 17.4(i) of the Equipment Contract.
1073. Clause 7.3 of the Equipment Contract provides as follows:

¹¹⁷⁸ Rs' PHB1, ¶55.

¹¹⁷⁹ Cs' PHB1, ¶234(f), (g) and (h).

“7.3 In addition to other remedies under the Agreement, each Party shall pay interest to the other Party, at the rate of one percent (1%) per month (or any fraction thereof), not to exceed the lesser of:

(i) twelve percent (12%) per annum; or,

(ii) the maximum amount permitted by applicable law if less than 12%;

on all amounts not timely paid by that other Party in accordance with the Agreement.”

1074. The Parties have not alleged any maximum amount permitted by applicable law.

1075. Thus, IEC is to be awarded interest on the above mentioned amounts from the thirty-first day following transmittal of this Final Award to the Parties, at the rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum.

B. GEOG's interest claims

1076. With respect to the amounts which this award has determined GEOG is entitled to receive from IEC, GEOG has requested interest at the contractual rate, as follows:

(i) On the amount of USD 950,000 (due as payment for the “Plant Ready to Ship” Milestone for Train 2 under Clause 7.1 of the Equipment Contact), from 1 November 2016.¹¹⁸⁰

This request is to be granted as this amount was due since 16 October 2016.¹¹⁸¹

(ii) On the amount of USD 4,750,000 (due as payment for the Mechanical Completion Milestone of Train 1 under Clause 7.1 of the Equipment Contact), as of 1 November 2016.¹¹⁸²

This request is to be granted only from 1 February 2020, which is the day following the day on which the amount became due.¹¹⁸³

(iii) On the amount of USD 4,750,000 (due as payment for the Mechanical Completion Milestone of Train 2 under Clause 7.1 of the Equipment Contact), as of 1 January 2017.

This request is to be granted only from 1 February 2020, which is the day following the day on which the amount became due.¹¹⁸⁴

¹¹⁸⁰ Rs' PHB1, ¶61.

¹¹⁸¹ See above, ¶899.

¹¹⁸² Rs' PHB1, ¶61.

¹¹⁸³ Rs' PHB1, ¶61.

¹¹⁸⁴ Rs' PHB1, ¶61.

- (iv) On the amount of USD 412,378 (due as payment of the outstanding price of purchase of spares), as of 1 January 2017.¹¹⁸⁵

This request is to be granted only from 7 April 2019, which is the day following the day on which the amount became due.¹¹⁸⁶

1077. Likewise, GE Nigeria has requested interest at the contractual rate¹¹⁸⁷ on USD 200,000 (due to GE Nigeria as payment for the Base Employees for the Mechanical Completion milestone of both Trains under the Services Agreement). However, the Arbitral Tribunal is not aware of GE Nigeria having indicated a date from which interest is requested.¹¹⁸⁸ Thus, the Arbitral Tribunal understands that GE Nigeria requests post-award interest. The request is to be granted.

XIV. COSTS

1078. The Claimants submit that the Respondents should be ordered to bear the following costs incurred by the Claimants:¹¹⁸⁹

- (i) USD 737,850,¹¹⁹⁰ the Claimants' 50% share of the ICDR's and Arbitrators' fees and costs;
- (ii) USD 4,881,662.91, in attorney's fees of Baker Botts;
- (iii) USD 2,649,705.50 in attorneys' fees of Freehill Hogan & Mahar;
- (iv) USD 744,475 in attorneys' fees of Kanu Agabi & Associates;
- (v) USD 894,530.77 in experts' fees of Exponent;
- (vi) USD 1,200,194.81 in experts' fees of the Brattle Group;
- (vii) USD 1,484,629.40 in experts' fees of Diales at Driver Trett;
- (viii) USD 639,361.50 in experts' fees of Manderstam;
- (ix) USD 103,652.32 in experts' fees of the IFO Group;
- (x) USD 3,174.71 in payment to Mr Ed Griffin for the provision of his witness statement;
- (xi) USD 428,020.18 in internal travel costs;
- (xii) USD 13,744.66 in hearing venue costs;

¹¹⁸⁵ Rs' PHB1, ¶¶61.

¹¹⁸⁶ Rs' PHB1, ¶¶61.

¹¹⁸⁷ Clause 7.3 of the Services Agreement is virtually identical to Clause 7.3 of the Equipment Contract.

¹¹⁸⁸ See Rs' PHB1, ¶¶61; Exhibit RER-16, §7.

¹¹⁸⁹ Claimants' Cost Submission, ¶¶9-15.

¹¹⁹⁰ The amount indicated in the Claimants' Cost Submission, ¶¶15, was USD 737,850. Subsequently, the amount for this item increased to USD 875,350. In addition, there is an amount of USD 13,345.07 outstanding from the Claimants to the ICDR.

- (xiii) USD 45,897.75 in hearing transcription costs;
- (xiv) USD 434,473.60 in other expenses (attorney expenses, meals, computer research, electronic document storage, etc.).
1079. The Respondents submit that the Claimants should be ordered to bear the following costs incurred by the Respondents:¹¹⁹¹
- (i) USD 705,497.81,¹¹⁹² the Respondents' 50% share of the ICDR's and Arbitrators' fees and costs;
- (ii) USD 144,272.62 in in-house counsel fees;
- (iii) USD 15,505.64 in in-house counsel expenses;
- (iv) USD 84,008.25 in travel and leisure costs for witnesses;
- (v) USD 27,111.55 in travel and leisure costs for other resources;
- (vi) USD 846,643.36 in legal fees for SLCG;
- (vii) USD 148,159.18 in SLCG expenses;
- (viii) USD 221,544.18 in costs of King & Spalding;
- (ix) USD 160,282.90 in costs of United Lex;
- (x) USD 87,854.17 in costs of Alan Crain (external consultant);
- (xi) USD 2,127,727.82 in experts' costs of HKA;
- (xii) USD 302,613.86 in experts' costs of Fairway (Mr Hillier's first expert report);
- (xiii) USD 125,647.66 in experts' costs of Fairway (Mr Blinkhorn's expert report);
- (xiv) USD 234,251.74 in experts' costs of Hillier International (Mr Hillier's second expert report);
- (xv) USD 58,046.41 in experts' costs of Ms Kay Linnell;
- (xvi) USD 6,777.86 in additional in in-house counsel fees and legal fees to prepare the Respondents' Comments on Cost Submission of 5 June 2020.¹¹⁹³

¹¹⁹¹ Respondents' Cost Submission, ¶145; the Respondents explain that they have expressed all amounts USD applying certain USD/EUR and USD/GBP exchange rates (Respondents' Cost Submission, ¶130); the Claimants have not objected to those exchange rates nor to the currency conversions made in Annex 1 to the Respondents' Cost Submission.

¹¹⁹² The amount indicated in the Respondents' Cost Submission, ¶145, was USD 705,497.81. Subsequently, the amount for this item increased to USD 792,089.81. In addition, there is an amount of USD 13,772.55 outstanding from the Respondents to the ICDR.

¹¹⁹³ Respondents' Comments on Cost Submission of 5 June 2020, ¶31.

1080. Pursuant to Rule R-47(c) and (d) of the Rules, the Arbitral Tribunal has the authority to award all of the foregoing costs. In particular, the Arbitral Tribunal may grant attorneys' fees given that all Parties have requested such award.
1081. Neither the Claimants nor the Respondents have made any distinctions between each claimant party and each respondent party.¹¹⁹⁴ Thus the Arbitral Tribunal's cost order shall be for joint and several payment by the Claimants or the Respondents, as the case may be.
1082. As informed by the Arbitral Tribunal on 23 January 2020, in response to the Respondents' inquiry made at the end of the Additional Hearing concerning the Arbitral Tribunal's cost decision, the Arbitral Tribunal shall apply the costs-follow-the-event rule.
1083. The Parties agree that the costs-follow-the-event rule should be a criterion for the allocation of costs. The Claimants considers that in addition to the extent to which the parties prevail in the arbitration (i.e. the costs-follow-the-event rule), regard should be paid to whether a party was "*forced to incur legal fees and expenses to prove issues that should have been candidly admitted.*"¹¹⁹⁵ Similarly, the Respondents submit that "[t]he outcome is the primary factor to be considered"¹¹⁹⁶ and it puts forward, as a second key factor, the conduct of the parties in the proceedings.¹¹⁹⁷
1084. The amount in dispute was USD 740,115,484.30, comprised of USD 700,000,000 in claims and USD 40,115,484.30 in counterclaims.
1085. The Claimants prevailed with respect to USD 36,263,191.33, i.e. 5%.
1086. The Respondents prevailed with respect to USD 703,852,292.97, i.e. 95%.
1087. The Arbitral Tribunal, having considered the Parties' allegations of other factors relevant to the cost decision,¹¹⁹⁸ is of the view that in the present case there are no circumstances that warrant a further adjustment of the result reached by applying the costs-follow-the-event rule.
1088. While the Arbitral Tribunal notes that there is a significant disproportion between the costs incurred by the Claimants' and those incurred by the Respondents,¹¹⁹⁹ the Arbitral Tribunal does not find either to be unreasonable.

¹¹⁹⁴ The Respondents complain that "*the Claimants offer no distinction between what costs were incurred by IEC or by Greenville*" (Respondents' Comments on Cost Submission of 5 June 2020, ¶21). But neither have the Respondents made any distinction among themselves.

¹¹⁹⁵ Claimants' Cost Submission, ¶8.

¹¹⁹⁶ Respondents' Cost Submission, ¶5.

¹¹⁹⁷ Respondents' Cost Submission, ¶4.

¹¹⁹⁸ Claimants' Cost Submission, ¶¶6-8; Respondents' Cost Submission, ¶¶8-29.

¹¹⁹⁹ See in this regard the Respondents' Comments on Cost Submission of 5 June 2020, ¶¶19-20.

1089. Thus, the Arbitral Tribunal finds that the Claimants shall bear 95% and the Respondents 5% of the costs of the arbitration. Specifically:

- (i) 95% of the administrative fees and expenses of the International Centre for Dispute Resolution totaling USD 149,367.32 and of the compensation and expenses of the arbitrators totaling USD 1,545,190.11 shall be borne by the Claimants and the remaining 5% shall be borne by the Respondents. Therefore, the Claimants shall jointly and severally reimburse the Respondents the sum of USD 721,134.49. This reimbursement payment should be made upon proof that all outstanding invoices of the ICDR/AAA and the arbitrators have been fully satisfied.
- (ii) The Claimants shall bear 95% of the Respondents' other arbitration costs totaling USD 5,295,945.01, i.e. USD 5,031,147.76, and the Respondents shall bear 5% of the Claimants' other arbitration costs totaling USD 14,261,373.11, i.e. USD 713,068.66. Therefore, the Claimants shall jointly and severally reimburse the Respondents the sum of USD 4,318,079.10.

1090. Moreover, the Arbitral Tribunal finds that the contractually agreed interest rate (as per Clause 7.3 of both the Equipment Contract and the Services Agreement) is also appropriate for the foregoing amounts. Therefore, interest shall accrue on those amounts from the thirty-first day following transmittal of this Final Award to the Parties, at the rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum.

XV. FINAL AWARD

For the reasons stated above, the Arbitral Tribunal,

- (i) Declares that it has no jurisdiction over the claims brought by Greenville.
- (ii) Dismisses all claims brought by Greenville for lack of jurisdiction.
- (iii) Declares that it has no jurisdiction over the claims brought against the BHGE Entities.
- (iv) Dismisses all claims brought against the BHGE Entities for lack of jurisdiction.
- (v) Dismisses the Respondents' request for a declaration that the Arbitral Tribunal has no power to award claims beyond the Contracts without assessing whether the contractual remedies were intended to address the breaches alleged by the Claimants.
- (vi) Declares that GEOG has breached the Equipment Contract.
- (vii) Orders GEOG to pay to IEC within thirty days from the date of transmittal of this Final Award to the Parties the sums of,
 - (a) USD 4,750,000 as payment of Liquidated Damages for delay in achieving the Delivery Date under Clause 6.5 of the Equipment Contract, plus interest from the thirty-first day following transmittal of this Final Award to the Parties, at the rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum;
 - (b) USD 1,375,130.89 as payment of direct damages related to the remediation of defects under Clause 17.4(i) of the Equipment Contract, plus interest from the thirty-first day following transmittal of this Final Award to the Parties, at the rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum; and
 - (c) USD 1,084,953.74 as payment of direct damages associated with delayed operation under Clauses 6.6(ii) and 17.4(i) of the Equipment Contract, plus interest from the thirty-first day following transmittal of this Final Award to the Parties, at the rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum.
- (viii) Orders IEC to pay to GEOG within thirty days from the date of transmittal of this Final Award to the Parties the sums of,
 - (a) USD 950,000 as payment for the "Plant Ready to Ship" Milestone for Train 2 under Clause 7.1 of the Equipment Contract, plus interest from 1 November 2016, at the rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum;
 - (b) USD 9,500,000 as payment for the Mechanical Completion Milestone of both Trains under Clause 7.1 of the Equipment Contract, plus interest from 1 February 2020, at the

rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum; and

- (c) USD 412,378 as payment of the outstanding price of purchase of spares, plus interest from 7 April 2019, at the rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum.
- (ix) Orders IEC to pay to GE Nigeria within thirty days from the date of transmittal of this Final Award to the Parties the sum of,
 - USD 200,000 as payment for the Base Employees for the Mechanical Completion Milestone of both Trains under the Services Agreement, plus interest from the thirty-first day following transmittal of this Final Award to the Parties, at the rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum.
- (x) Orders that 95% of the administrative fees and expenses of the International Centre for Dispute Resolution totaling USD 149,367.32 and of the compensation and expenses of the arbitrators totaling USD 1,545,190.11 shall be borne by the Claimants and the remaining 5% shall be borne by the Respondents. Therefore, it orders the Claimants to jointly and severally reimburse the Respondents the sum of USD 721,134.49, plus interest from the thirty-first day following transmittal of this Final Award to the Parties, at the rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum. This reimbursement payment should be made upon proof that all outstanding invoices of the ICDR/AAA and the arbitrators have been fully satisfied.
- (xi) Orders that the Claimants shall bear 95% of the Respondents' other arbitration costs totaling USD 5,295,945.01, i.e. USD 5,031,147.76, and the Respondents shall bear 5% of the Claimants' other arbitration costs totaling USD 14,261,373.11, i.e. USD 713,068.66. Therefore, it orders the Claimants to jointly and severally reimburse the Respondents the sum of USD 4,318,079.10, plus interest from the thirty-first day following transmittal of this Final Award to the Parties, at the rate of one percent per month (or any fraction thereof), not to exceed twelve percent per annum.
- (xii) Dismisses all other claims.
- (xiii) This award is in full settlement of all claims and counterclaims submitted to this Arbitration.
- (xiv) This Final Award may be executed in any number of counterparts, each of which shall be deemed an original, and all of which shall constitute together one and the same instrument.

We hereby certify that, for the purposes of Article I of the New York Convention of 1958, on the Recognition and Enforcement of Foreign Arbitral Awards, this Final Award was made in New York, NY, USA.

October 30th, 2020

Date

David Arias, Chair

I, David Arias, do hereby affirm upon my oath as Arbitrator that I am the individual described in and who executed this instrument, which is our Final Award.

October 30th, 2020

Date

David Arias

Date

Paul F. Saba, Arbitrator

I, Paul F. Saba, do hereby affirm upon my oath as Arbitrator that I am the individual described in and who executed this instrument, which is our Final Award.

Date

Paul F. Saba

DISSENTING

Date

Stefano Azzali, Arbitrator

I, Stefano Azzali, do hereby affirm upon my oath as Arbitrator that I am the individual described in and who executed this instrument, which is our Final Award.

Date

Stefano Azzali

We hereby certify that, for the purposes of Article I of the New York Convention of 1958, on the Recognition and Enforcement of Foreign Arbitral Awards, this Final Award was made in New York, NY, USA.

Date

David Arias, Chair

I, David Arias, do hereby affirm upon my oath as Arbitrator that I am the individual described in and who executed this instrument, which is our Final Award.

Date

David Arias

October 30, 2020
Date

Paul F. Saba
Paul F. Saba, Arbitrator

I, Paul F. Saba, do hereby affirm upon my oath as Arbitrator that I am the individual described in and who executed this instrument, which is our Final Award.

October 30, 2020
Date

Paul F. Saba
Paul F. Saba
DISSENTING

Date

Stefano Azzali, Arbitrator

I, Stefano Azzali, do hereby affirm upon my oath as Arbitrator that I am the individual described in and who executed this instrument, which is our Final Award.

Date

Stefano Azzali

We hereby certify that, for the purposes of Article I of the New York Convention of 1958, on the Recognition and Enforcement of Foreign Arbitral Awards, this Final Award was made in New York, NY, USA.

Date

David Arias, Chair

I, David Arias, do hereby affirm upon my oath as Arbitrator that I am the individual described in and who executed this instrument, which is our Final Award.

Date

David Arias

Date

Paul F. Saba, Arbitrator

I, Paul F. Saba, do hereby affirm upon my oath as Arbitrator that I am the individual described in and who executed this instrument, which is our Final Award.

Date

Paul F. Saba
DISSENTING

October 30, 2020

Date

Stefano Azzali

Stefano Azzali, Arbitrator

I, Stefano Azzali, do hereby affirm upon my oath as Arbitrator that I am the individual described in and who executed this instrument, which is our Final Award.

October 30, 2020

Date

Stefano Azzali

Stefano Azzali

Exhibit 2

INTERNATIONAL ENGINEERING & CONSTRUCTION S.A.
GREENVILLE LIQUEFIED NATURAL GAS COMPANY, LTD. (Nigeria)

- and -

BAKER HUGHES ENERGY SERVICES LLC
GE INTERNATIONAL OPERATIONS (NIGERIA) LTD.
PRESSURE CONTROL SYSTEMS NIGERIA LIMITED

BAKER HUGHES COMPANY
BAKER HUGHES HOLDINGS LLC

ICDR Case No. 01-18-0002-9174

DISSENT

1. GE agreed to design, manufacture, and supply to IEC two small scale modular LNG production plants (“Trains”). The parties signed the Equipment Contract on September 13, 2014. It called for delivery of the Trains in 9 and 12 months. As of December, 2019, both Trains stood on-site in Nigeria, inoperable and unsafe to operate.¹

2. On the Tribunal’s own findings:

- delivery of the Trains’ modules was delayed until March 28, 2016,
- there followed three years of protracted rectification of defects while shipments of minor items and replacement items continued until February 2019, and
- as of late summer 2019, there existed three issues concerning pipe stresses and pipe supports, electrical cables, and a failed “soft starter” for the MR system, all of which prevented operation of the Trains.²

¹ Simply for ease of reference, “GE” in this dissent refers to the GE parties to the proceeding, “IEC” refers to IEC and Greenville, and the “Tribunal” refers to the Tribunal as a whole or the Chairman and my co-arbitrator together, where the context indicates their majority view from which I dissent.

² Award, ¶¶ 630, 631, 634, 643, 669, 705-706)

3. The Tribunal recognizes GEOG's responsibility for this state of affairs.³ But it declines to conclude that GE's performance was grossly negligent.

4. I think it should have concluded otherwise.

5. Inadequate pipe supports and overstressed pipes created the risk of catastrophic accident.⁴ The electrical cables were undersized and posed risks of overheating, melting, and fire.⁵ And the MR compressors were essential for the core LNG production process. I note with the Tribunal that in March 2016, GE had declared to IEC in upper case letters that the soft starter for the compressor motors "WILL work".⁶ In late 2018, a consultant to IEC determined that in fact it was unworkable.⁷ In February 2019, GE finally acknowledged this defect.⁸

6. I don't understand this situation to be the outcome of ordinary, "garden variety" performance failures.

7. In January 2018, an internal GE report indicated that a piping stress analysis for one of the Trains' systems had "probably" never even been performed. The lines involved contained toxic chemicals. The analysis then performed for that system showed "pipe supporting is not appropriate, wrong type and wrong location". As of summer 2019, GE had not remedied these defects.⁹

8. Between December 2018 and August 2019, GE performed and furnished IEC three further stress analyses. They were materially different and inconsistent with one another.¹⁰ The Tribunal has found that GE was not transparent with IEC as to what stress tests GE had or had

³ Award, ¶ 866

⁴ CER 2, p.19, Award, ¶¶ 693-694, 696

⁵ Award, ¶ 683, CER 2, pp.7-8, 22

⁶ Award, ¶ 690

⁷ C-566, p.51

⁸ Award ¶¶ 570-571

⁹ C-948, Tr. Volume 7, p.250:5-17

¹⁰ CER 8, 4.1.4

not been performing. It has also recognized that IEC prudently withheld acceptance of these tests until IEC's external consultants could review and confirm them.¹¹

9. Dr Caligiuri, IEC's expert, extensively reviewed GE's stress testing documentation. He concluded that, at various times over the course of the project up to and including August, 2019, GE's stress engineering was incomplete, unreliable, non-compliant with applicable Code requirements, inconsistent with the standard of care for a project like IEC's, and entirely unacceptable. He made a point of noting that Code non-conformities "represent potential life safety hazards."¹²

10. The Tribunal itself has found that "pipe support defects are not minor items but they materially affected the operation and safety of the Trains".¹³ I would go further and find that GE's failure to perform reliable stress tests as late as August 2019, with the severe safety risks that failure created, was grossly negligent. It was "*so extreme a departure from the standards of ordinary care*" that "*the danger was either known to the defendant or so obvious that the defendant must have been aware of it*". CL-5 (*Bayerische Landesbank New York Branch v. Aladdin Capital Management* (emphasis added)¹⁴. See also CL-218, *Corwin v. New York Bike Share, LLC, et al* (*sound engineering practices unjustifiably ignored and creating foreseeable risks to safety are sufficiently reckless to constitute gross negligence*)(emphasis added).¹⁵

11. GE was an experienced and sophisticated contractor. Nothing on the record of this case indicates that it was unaware or could not have known of the risks created by deficient pipe stress engineering. It had to know.

12. I believe the undersized electrical cables should be seen in the same light in view of the safety risks they also created. And I find it difficult to characterize as mere negligence GE's

¹¹ Award, ¶ 676

¹² CER 8, 4.1.6, 6.1.31, 6.1.38

¹³ Award, ¶ 693.

¹⁴ 692 F.3d 42, *61 (2d Cir.2012)

¹⁵ 238 F. Supp. 3d 475 *514 (S.D.N.Y. 2011)

failure to provide a workable starter for the MR compressors after insisting for almost 3 years that it would work. Start-up of the MR compressors, like properly sized and safe electrical cables and safe pipe supports, was essential to operation of the Trains.¹⁶

13. Singly or together these defective items prevented the Trains' start-up more than 5 years after execution of the Contract. In addition, they came after late delivery and atop a long list of other defects involving missing and major equipment items which themselves required years of protracted rectification.

14. The Tribunal has expressly determined that that GE breached the Equipment Contract in that:

It failed to deliver the Trains by their respective Delay Limit Date,

It delivered Trains with, among others,

- multiple defects (incomplete and piecemeal delivery of the modules),
- a defective soft-starter solution,
- defective pipe supports,
- defective MRC motor cables, and

it failed to remedy those defects within a reasonable time.¹⁷

15. In my view these performance failures were too many, too serious, and too prolonged for GE to escape major liability. "A repeated course of (even) ordinary negligence with a foreseeably severe cumulative effect may constitute gross negligence under some circumstances". See *CL-220 New York State Workers Compensation Bd. v. Program Risk Management, Inc, et al*¹⁸

¹⁶ Award, ¶ 689

¹⁷ Award ¶ 866

¹⁸ 26 N.Y.S.3d 2014, *5, 2015 WL 5774443

16. I think the record in this case amply supports a finding of gross negligence and a very different outcome.

17. IEC had identified and was creating a market for LNG for customers unserved or underserved by the Nigerian gas pipeline network, and for sale elsewhere in West Africa. It was planning first sales in late 2015 or early 2016.¹⁹ Its core damages claim was for profits and earnings missed during the delay to startup of the Trains.

18. Mr. LaPuerta, IEC's expert, presented detailed and well supported calculations of these expected earnings for Trains 1 and 2. They run to as high as \$288 million dollars.²⁰

19. EC claimed these amounts as either direct or indirect, consequential damages. I concur with the Tribunal's finding that lost profits and revenues were excluded by the Contract's exculpatory clause.²¹ But a finding of gross negligence would have overcome this exclusion and allowed consideration of IEC's damages claims for profits.

20. The Tribunal has limited itself to a determination only of the parties' claims for direct damages. That determination includes an award to GE of \$9.5 million for "mechanical completion" of the Trains. Yet the Tribunal has expressly found that IEC alone, not GE, has remedied the serious defects necessary to achieve mechanical completion.²² In the event, by awarding GE this \$9.5 million and by simple arithmetic offset, the outcome of this case is an award which awards damages to GE and awards nothing to IEC.

21. For the reasons expressed, I'm compelled to dissent from this outcome, as well as from the Tribunal's order that IEC pay the costs of the proceedings, as set out in Section XV. ¶¶ (x) and (xi).

¹⁹ SOC, ¶ 46

²⁰ CER 10, ¶¶ 14, 101 and Table 4

²¹ C-1, § 19.3, Award ¶ 735

²² Award ¶¶ 923, 935, 939-940

October 30, 2020

Date

Paul F. Saba

Paul F. Saba, Arbitrator

Dissenting

Exhibit 3

**CONTRACT FOR THE SALE
OF
TWO SMALL SCALE (SCMR) LNG PLANTS**

**GE Oil & Gas, Inc., Seller
to
International Engineering & Construction S.A., Buyer**

Executed September 13, 2014

Handwritten signature and initials, possibly "AB" and "W", located in the bottom right corner of the page.

**CONTRACT FOR THE SALE OF
TWO SMALL SCALE (SCMR) LNG PLANTS**

THIS AGREEMENT (hereinafter the "Agreement") for the sale of two small scale SCMR LNG plants (hereinafter the "Plants", as further defined below), with a Buyer's option for the purchase of two additional Plants, is entered into on and enters into force and effect as of the 13th day of September 2014 (hereinafter the "Effective Date") by and between: (1) GE Oil & Gas, Inc., a corporation organized and existing under the laws of the State of Delaware, with an address and place of business at 4424 West Sam Houston Parkway N., Houston, Texas 77041 (hereinafter the "Seller") and (2) International Engineering & Construction S.A., a corporation organized and existing under the laws of Luxembourg, with an address at Rue de Neudorf 36 L-2222, Luxembourg, Luxembourg (hereinafter the "Buyer").

13th 9/14
6-1-14

The Buyer and Seller are referred to herein individually as a "Party" and collectively as the "Parties".

RECITALS:

WHEREAS, Seller has developed and is producing fully-modular small scale LNG production plants (commonly referred to as 'SCMR LNG plants'); and,

WHEREAS, Seller desires to sell to Buyer two (2) such Plants under the terms and conditions set forth herein; and,

WHEREAS, Buyer desires to purchase the two (2) Plants from Seller for deployment in Nigeria under the terms and conditions set forth herein; and,

WHEREAS, Buyer shall conclude (contemporaneously with this Agreement) the separate Services Agreement (as defined below) with GE International Operations (Nig) Ltd for on Site supervision of the installation, start-up, commissioning, testing and turn-over of the Plants, as well as Buyer-employee training to ensure that the Plants are properly installed and function to their designed and warranted capacities;

NOW, THEREFORE, in consideration of these Recitals, the mutual covenants, promises and agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, the Parties agree as follows:

AB
h

1. DEFINITIONS

Unless otherwise defined elsewhere in the Agreement, the following terms shall have the following meanings:

"Acceptance Tests" means the tests which have to be passed successfully as one of the conditions to obtain the Taking Over Certificate. They comprise the Start-Up Tests and the Performance Tests. The Acceptance Tests are further specified in the Scope of Supply.

"Affiliate" with respect to a Party means an entity (including without limitation any individual, corporation, partnership, limited liability company, association or trust) controlling, controlled by or under common control with that Party.

"Buyer" means International Engineering & Construction S.A.

"Buyer Taxes" means all taxes, duties, fees, or other charges of any nature (including, but not limited to, ad valorem, consumption, excise, franchise, gross receipts, import, export, license, property, sales, stamp, storage, transfer, turnover, use, or value-added taxes, and any and all items of withholding, deficiency, penalty, addition to tax, interest, or assessment related thereto), imposed by any governmental authority of any country due to the execution of this Agreement other than Seller Taxes.

"Change" means any modification to the Plant.

"Change Order" means a document issued by Buyer, in which Buyer indicates its agreement with a Proposal For Change Order issued by Seller.

"Claim" has the meaning given to it in Clause 13.1.

"Commissioning" means testing of the Plant (or portions thereof), including the injection of fluids and energy (electrical, pneumatic and hydraulic) and hydrocarbons, to ensure that the equipment and systems comprising the Plant are operational according to this Agreement, such that the Plant is ready for the Acceptance Tests.

"Confidential Information" has the meaning given to it in Clause 22.1.

"Constituent Documents" has the meaning given to it in Clause 1.5.

"Contract Price" means the amount stated in Clause 7.1 for the purchase of the Plants, provided that the Contract Price per Plant is that amount of the Contract Price attributable to each Plant (\$47,500,000.00 USD for each Plant).

"Costs" means all expenses (excluding any losses among which profit and consequential losses that are excluded in Clause 19.3), costs and disbursements, including overhead costs.

"Country" means the Federal Republic of Nigeria.

"Day" means a calendar day, i.e. any twenty-four (24) hour period beginning and ending at 12:00 midnight in the Country, unless specified as starting from a specific hour.

"Defect" means a failure to meet any warranty set forth in Clause 17.1 (even if apparent before Taking Over).

"Delivery Date" means the date on which the Plants shall be delivered by Seller to Buyer in accordance with this Agreement, which for:

- (i) the first Plant shall be nine (9) Months; and, ✓
- (ii) the second Plant shall be twelve (12) Months; ✓

from the Effective Date.

"Delay Limit Date" means the date on which the maximum amount of Liquidated Damages for delay in achieving the Delivery Date has been reached.

"Disclosing Party" has the meaning given to it in Clause 22.1.

"Effective Date" means the date on which the Agreement enters into force and effect, which shall be 13 September 2014.

"Event of Default" has the meaning given to it in Clause 28.2.

"Finance Agreements" means the agreements entered into or to be entered into between Buyer and its Lenders and other documents related thereto for the purpose of providing financing, refinancing or other financial services for the Plant(s).

"Final Technical File" means the package containing all the as-built Technical Documentation as referred to in Clause 12.2.

"Force Majeure Event" has the meaning given to it in Clause 33.1.

"Guaranteed Performance" shall mean the values ascribed to 'LNG Throughput Capacity', the 'LNG Quality' and the 'Power Consumption' in Appendix A.

"Government" means the government of the United States of America, represented by its various ministries and agencies.

"Hazardous Materials" means any chemical, substance, material or emission, including H2S gas, that is or may be regulated, governed, listed or controlled pursuant to any international, national, federal, provincial, state or local statute, ordinance, order, directive, regulation, judicial decision or other legal requirement applicable to Site as a

AB
u

toxic substance, hazardous substance, hazardous material, dangerous or hazardous waste, dangerous good, pesticide, radioactive material, regulated substance or any similar classification, or any other chemical, substance, emission or material, including, without limitation, petroleum or petroleum-derived products or by-products, regulated, governed, listed or controlled or as to which liability is imposed on the basis of potential impact to safety, health or the environment pursuant to any legal authority of the United States of America or the Country.

"Inspection Test Plan" means the inspection test plan for a Plant, as agreed between the Parties in accordance with the Scope of Supply.

"Law" means all laws, statutes, edicts, decrees, ordinances, regulations, requirements, instructions, orders and other legal acts of any judicial or governmental authority or agency of the United States of America or any body under the control of the Government or any international, federal, state, or municipal authority thereof, or of any Public Authority or of any court or tribunal thereof and international treaties of the United States of America, or international acts, laws or regulations as far as applicable in the United States of America.

"Lenders" means the banks and other financial institutions who have committed or will commit to make certain loan facilities or other credit support or financial services available pursuant to the Finance Agreements, and shall include any export credit agency and any agent or trustee for any of the aforesaid persons, together with their respective successors and assigns and any persons subrogated to their rights.

"Lender's Engineer" is the organization or the person (which may be) appointed by the Lenders to represent them on technical matters.

"Lien" shall mean any mortgage, pledge, lien, security interest, option agreement, claim, charge or encumbrance of any kind or any conditional sale contract, title retention contract or other contract giving effect to any of the foregoing.

"Liquidated Damages" means the damages that will be due in case of particular non-compliance as specified in and payable in accordance with the Agreement, which the Parties stipulate represent a fair, reasonable and conservative estimate of the damages Buyer would suffer for the respective breaches. If expressed as a percentage, the calculation of any applicable Liquidated Damages shall be calculated on the Contract Price per Plant. Liquidated Damages shall be free of any tax deduction or charges whatsoever.

"LNG Specifications" has the meaning given to it in Appendix A.

"Mechanical Completion" means that a Plant has been mechanically, electrically and structurally installed on Site and connected, in accordance with the Technical Documentation, but excluding (i) Commissioning, (ii) any minor items which do not materially affect the operation or safety of the Plant and (iii) the introduction of gas,

AB
W

fluids and/or electricity. In the event Seller is prevented from Mechanical Completion due to reasons beyond its control, Mechanical Completion shall mean five (5) months after the Delivery Date.

"Milestone" means the event or group of events to be achieved in order to entitle Seller to invoice the payment as listed in the Payment Schedule.

"Month" means a calendar month according to the Gregorian Calendar beginning at 12:00 midnight on the last Day of the preceding month and ending at 12:00 midnight on the last Day of the current month, unless otherwise specified as from another Day to the Day preceding the same Day of following Month.

"Operation And Maintenance Manuals" means the manuals described as such in the Scope of Supply.

"Parent Company Guarantee" means the guarantee, in the form set out in Appendix D, to be issued by Buyer's parent company and delivered by Buyer to Seller in accordance with Clause 7.8.

"Parts" means the spare parts identified in the Agreement, or ordered pursuant to and in accordance with the Agreement.

"Parts For Two Years Operation" means the spare parts listed as such in Appendix A.

"Payment Schedule" has the meaning given to it in Clause 7.1.

"Performance Bond" means a bond in the form set out in Appendix C of this Agreement to cover the performance by Seller of all its obligations during the Warranty Period, to be issued in favour of Buyer by a first class bank approved by Buyer.

"Performance Tests" means such tests to be made by Seller according to the tests procedures provided in Appendix A to determine whether the Guaranteed Performances are achieved.

"Plant" and/or "Plants" means the fully-modular small scale LNG production plants being sold and to be delivered by Seller under this Agreement, which shall include all equipment, components, materials, supplies, products, manuals and other goods to be supplied by Seller to Buyer, as more specifically described in Appendix A.

"Plant 3" and "Plant 4" shall have the meaning given to them in Clause 32.1.

"Port of Export" means the port of Houston Texas, or any other mutually agreed location.

"Proposal For Change Order" has the meaning given to it in Clause 24.2.

AS
W

"Public Authority" means the Government and any of its subdivisions, any local governmental authority with jurisdiction over Seller, Buyer, the Plant(s) or any part thereof or the Site, courts or tribunals in the Country, and any administrative department, authority, instrumentality, administrative body or judicial body of the Government or any such local governmental authority.

"Punch List" means the list of the outstanding minor work still to be completed by Seller after Taking Over.

"Receiving Party" has the meaning given to it in Clause 22.1.

"Seller" means GE Oil & Gas, Inc., part of the General Electric Group, together with its successors and permitted assigns, who shall sell and deliver the Plants under this Agreement.

"Seller's Representative" has the meaning given to such term in Clause 3.

"Seller Taxes" has the meaning given to it in Clause 3.1.

"Services" means all the services to be provided under the separate Services Agreement.

"Services Agreement" means the separate services contract between Buyer and the Services Provider, dated on the same date as the Effective Date, under which the on Site supervision of the installation, start-up, commissioning and testing of the Plants, as well as Buyer-employee training on Site in Nigeria will be undertaken.

"Services Provider" means GE International Operations (Nig) Ltd, in its capacity as Buyer's counterparty under the separate Services Agreement.

"Site" means Buyer's premises in Nigeria where the Plants will be installed.

"Start-Up Tests" means the tests to bring a Plant into full operating conditions in a defined sequence in order to be ready for the Performance Tests.

"Standby Letter of Credit" shall mean an irrevocable letter of credit, in the form set out in Appendix B of the Agreement, to cover Buyer's obligations to pay the Contract Price to Seller pursuant to the Payment Schedule, to be issued in favour of Buyer by KBC Bank or another first class bank approved by Seller.

"Subcontractor" means any person, firm or company - or group thereof - (other than Seller) to whom any part of the Agreement has been subcontracted by Seller in accordance with the terms of this Agreement.

"Taking Over" means the point in time when the conditions set out in Clause 26.1 have been fulfilled, as evidenced by the Taking Over Certificate. In the event Seller is

AB
u

prevented from meeting the conditions set out in Clause 26.1 due to reasons beyond Seller's control, Taking Over shall mean eight (8) months after the Delivery Date.

"Taking Over Certificate" means the certificate issued by Buyer to Seller in accordance with Clause 26.1

"Technical Documentation" means all technical documentation, specifications, samples, patterns, models, calculations, computer programs (software), Operation And Maintenance Manuals and other documents or information of a similar nature, to be submitted by Seller to Buyer in accordance with Appendix A.

"Termination Fee" means the amount that Buyer shall pay to Seller in case of termination of the Agreement pursuant to Clause 29.

"Test Certificate" means, in relation to any test conducted in accordance with the Agreement where a test certificate is required, the certificate issued by Buyer certifying that the test has been passed or, in the case of the Performance Tests, has achieved the Acceptable Limits.

"Warranty Period" means the period, specified as such in Clause 17.2.

"Week" means a calendar week consisting of seven (7) Days.

"Wilful Misconduct" means, on the part of a Party's managerial or senior supervisory personnel, an intentional and/or wrongful act, or an intentional and/or wrongful failure to act, with the intent to cause or inflict damage or injury.

"Working Day" means each day other than a Saturday, or a Sunday or other than a day which is a legal holiday in the United States of America or in the Federal Republic of Nigeria.

1.2. Interpretation

In this Agreement, unless the context otherwise requires or the relevant provision(s) expressly state otherwise:

- (i) the headings to the clauses and the emphasizing are for convenience only and do not affect the interpretation of this Agreement;
- (ii) all references to documents or other instruments include all amendments and replacements thereof and supplements thereto;
- (iii) all references to any statute or statutory provision shall include references to any statute or statutory provision which amends, extends, consolidates or replaces the same or which has been amended, extended, consolidated or replaced by the same

MS
w

and shall include any orders, regulations, instruments or other subordinate legislation made under the relevant statute;

- (iv) reference to a 'person' or 'persons' or a 'party' or 'parties' includes individuals, bodies corporate, unincorporated associations and partnership and that person's or those persons' personal representatives, successors and permitted assignees, private or public bodies or individuals;
- (v) any obligation on a Party to do anything shall be deemed to include an obligation to procure such thing to be done; any obligation not to do anything shall be deemed to include an obligation not to permit or not to suffer such thing;
- (vi) when a time-limit is determined in Days, it expires at the end of the last Day and it is counted from Day to Day; when it is determined in months, it is counted from Day of Month to Day of Month; if the last Day of either time-limit is a public holiday or does not occur in the Month in which the time-limit expires, the time-limit is extended to the end of the first Working Day that follows;
- (vii) save exceptions agreed to by Buyer, the only measurement units admitted are the internationally used measurement units of the metric system;
- (viii) if any reference is made in this Agreement to Incoterms or any standards such as ISO standards, the particular Incoterms or standards will apply only:
 - (a) to the particular item in respect of which they are used; and,
 - (b) to the extent that such application is not conflicting with the content of this Agreement;
- (ix) 'including' shall, unless expressly stated otherwise, mean 'including without limitation'; and,
- (x) references to a 'Clause' shall be to a clause of this Agreement.

1.3 Communications - Notices

Any notice, instruction, consent, approval, comment, certificate or determination to be given in connection with the Agreement must be in writing and shall be validly given if delivered by hand, or sent via an internationally recognised courier company to:

- (i) for Seller: GE Oil & Gas, Inc.
1150 Schwab Road
Schertz, Texas, U.S.A. 78132
Attention: Frank Freeman

With copy to:

AM
W

Associate General Counsel, GE Oil & Gas – DTS
4424 West Sam Houston Parkway N.
Houston, Texas, U.S.A. 77041; and,

- (ii) for Buyer: International Engineering & Construction S.A.,
Rue de Neudorf 36
L-2222 Luxembourg, Luxembourg
Attention: Managing Director & Legal Manager

With copy to

Peter Gutowski
Freehill Hogan & Mahar, LLP
80 Pine Street
New York, New York, U.S.A. 10005;

Either Party to the Agreement may change its nominated addressee by prior written notice to the other. Any notice shall be effective upon receipt and shall be deemed to have been received at the time of delivery if delivered by hand or courier company.

Day to day communications between the Parties shall be transmitted via e-mail with delivery confirmation to the e-mail address(es) as notified by a Party to the other Party and shall be deemed to have been received on the third Working Day (in the place to which it is sent) following the date of sending if sent by email.

1.4 Language

All correspondence between Buyer and Seller as well as all Technical Documentation and comments thereto and shipping marks shall be in English.

The Operation And Maintenance Manuals, all markings on equipment, labels, sign-boards, instrument dials, graphical interfaces with the process control system, safety documentation, machine and component name plates shall be in English.

1.5 Constituent Documents

The Agreement between the Parties shall be comprised of and consists of the following documents (the “Constituent Documents”), each of which shall be read and construed as an integral part of the Agreement, listed in order of precedence in case of dispute:

- (i) This Agreement document, inclusive of the Recitals and Clauses 1 - 33;
- (ii) Appendix A: Scope of Supply;
- (iii) Appendix B: Form of Buyer’s Stand-by Letter of Credit;

AB
W

- (iv) Appendix C: Form of Seller's Performance Bank Guarantee; and,
- (v) Appendix D: Form of Buyer's Parent Company Guarantee.

In case of ambiguities or discrepancies between any provisions of (a) Constituent Document(s), each Party shall inform the other Party as soon as possible after discovery of such ambiguity or discrepancy, and the Parties shall explain and/or adjust such ambiguities or discrepancies in a manner reasonable to both Parties. In the event of an inability of the Parties to agree on how any such ambiguity or discrepancy shall be resolved, standard contract interpretation principles applicable under the laws of the State of New York will be applied to resolve same.

1.6 No Joint Venture, partnership or association

The Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either Party.

Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

1.7 Parties to act reasonably

Where reference is made in the Agreement to a Party's decision, approval, refusal, consent, agreement, act, etc., such shall not be taken, given or withheld unreasonably or unfairly, unless otherwise expressly stated.

In all cases the Party claiming a breach of Agreement or a right to be indemnified for any cost, loss or damage in accordance with the Agreement, shall be obliged to make its efforts to mitigate the cost, loss or damage which has occurred or may occur.

2. REQUESTS

Buyer may issue to Seller requests which Buyer may consider necessary or helpful to Seller in the performance of Seller's obligations under the Agreement. If any such request impacts Contract Price or the Delivery Date, it constitutes a Change, and Clause 24 shall apply.

In the event any request of Buyer is transmitted orally, Seller may require Buyer to confirm same in writing. Seller shall notify Buyer of such requirement without undue delay but in any event within seven (7) Working Days of receipt of Buyer's verbal transmission. The request shall not be effective until written confirmation thereof has

AS
W

been received by Seller, and to be effective, such written confirmation by Buyer must be sent within seven (7) Working Days of receipt of Seller's request.

Any request from Buyer shall not relieve Seller from its responsibility for delivering the Plant in accordance with the Agreement.

3. PROJECT MANAGER

Seller shall provide all necessary superintendence during the performance of its obligations under the Agreement. Seller shall appoint at the latest at Effective Date a competent and authorized representative (the "Seller's Representative") approved in writing by Buyer, which approval may at any time be withdrawn, who shall act as 'Project Manager' and devote the necessary time to the superintendence of the same and who shall have the authority to act on Seller's behalf under the Agreement. Such authorized representative may receive, on behalf of Seller, requests from Buyer.

After having obtained Buyer's approval, Seller shall not, without obtaining Buyer's prior written consent, such consent not to be unreasonably withheld, revoke or replace the Seller's Representative.

If Buyer reasonably withdraws its approval of Seller's Representative, Seller shall, as soon as is practicable after receiving written notice and explanation of such withdrawal, remove the representative from the execution of the Agreement and shall replace him by another representative approved by Buyer. In case of removal of Seller's Representatives in accordance with this paragraph, such representative shall thereafter not be employed on the Agreement in any capacity unless approved by Buyer.

4. ASSIGNMENT AND SUBCONTRACTING

4.1 Assignment by Buyer

Buyer shall not assign the Agreement or any part thereof or any benefit, obligation or interest therein or thereunder, to any third party, without the prior written consent of Seller. Notwithstanding the foregoing, Buyer shall be entitled, without Seller's consent:

- (i) to assign the Agreement or any part thereof or any benefit, obligation or interest therein or thereunder, to any Affiliate but provided (a) such Affiliate has been approved by Seller as having the financial capability to perform the Agreement obligations, or (b) Buyer shall remain liable for all Buyer's obligations under this Agreement that are assigned to such Buyer's Affiliate; and,
- (ii) to assign, charge or otherwise encumber the Agreement or any rights or benefits arising thereunder or therefrom by way of collateral in favor of Lenders. Any such assignment, charge or encumbrance may include the right to make second or

AB
W

subsequent assignments, charges or encumbrances and to enforce the same by way of sale or otherwise subject to the terms that will be reasonably agreed by Seller.

Seller shall provide Buyer with such assistance as Buyer may from time to time reasonably request in relation to Buyer's financing arrangements with actual or potential Lenders and shall co-operate fully with Buyer to that end.

For the avoidance of doubt, it is expressly confirmed that all rights of Buyer under or in relation to the Agreement may be exercised by and shall inure for the benefit of its successor in title and assignees.

4.2 Sub-contracting

Nothing in this Agreement shall restrict Seller from subcontracting portions of its work, provided that Seller shall remain responsible to Buyer for performance of subcontracted scope and that Seller shall only subcontract parts of the Agreement to Subcontractors that:

- (i) exist validly and are in good standing under the laws of their respective country or place of incorporation; and,
- (ii) are fully experienced and properly licensed, equipped, competent and qualified to perform all aspects of the subcontracted work so as to ensure that said work will be in accordance with the provisions of this Agreement.

Any such subcontracting shall neither relieve Seller from any liability or obligation under the Agreement, nor result in a legal relationship being created between Buyer and the Subcontractor concerned. The Seller shall remain responsible for the acts, defaults and neglects of any Subcontractor, its agents, servants or workmen as fully as if they were the acts, defaults or neglects of Seller.

Seller shall in any event require the Subcontractor:

- (i) to respect the provisions of this Agreement (to the extent applicable); and,
- (ii) not to assign or to subcontract any of the subcontracted work to any third party without providing notice and requiring consent from Seller.

This Agreement shall not create any liability, in contract, tort, warranty, strict liability, or any other legal theory, from Buyer in respect of the Subcontractor.

4.3 Assignment by Seller

Seller may assign its rights and obligations under the Agreement, in part or in whole, to one or more of its Affiliates, without Buyer's consent and upon written notice to Buyer

AB
W

setting forth the effective date of such assignment; provided that in the event of any such assignment, Seller shall nevertheless remain fully responsible to Buyer for the full, due and complete performance and fulfillment of all aspects of the Agreement. Seller may novate its rights and obligations under the Agreement, in part or in whole, only with Buyer's written consent, which Buyer may withhold or grant at its absolute discretion. Buyer agrees to execute such documents as may be reasonably necessary to effect the assignment, or novation (if approved). Seller shall have the right at all times to assign to third parties any and all credits under the Agreement subject to prior notification in writing to Buyer.

5. SCOPE

Seller shall sell and deliver the Plants (and Technical Documentation) to Buyer by their respective Delivery Dates, all in compliance with all other obligations under the Agreement. The description of the Plants is given in Appendix A - Scope of Supply.

6. COMPLIANCE WITH TIME-LIMITS

6.1 Effective Date

After the Effective Date, Seller shall proceed with the performance of the Agreement regularly and diligently in accordance with the Agreement.

6.2 Progress of Works - Delay

Seller shall perform the Agreement in accordance with meeting the Delivery Date. If, at any time, the actual progress is not consistent with meeting the Delivery Date, or as from the moment Seller's personnel working on the Plant becomes aware of the fact that a Milestone cannot be met and same will affect the Delivery Date, Seller shall promptly inform Buyer and shall produce, within ten (10) Working Days, a report identifying:

- (i) the likely period of delay;
- (ii) the event causing the delay;
- (iii) the impact which such event has had or in the opinion of Seller is likely to have or will have on its ability to achieve any of the Milestones;
- (iv) the steps which Seller has taken, is taking and will take to mitigate the adverse consequences of such event; and,
- (v) further particulars of the consequences of the delay as Seller becomes aware.

AB
W

Seller shall, in consultation with Buyer, use commercially reasonable efforts to minimize or remove the actual or anticipated delay and any consequences thereof. If the Buyer can demonstrate that the steps proposed by Seller fail to adequately address the anticipated delay in meeting the Delivery Date, then Seller shall increase its efforts in order to remove or minimize the adverse effect. In case Seller is delayed in its planning, taking into account the Delivery Date, the Milestones to be complied with shall be extended accordingly.

6.3 Extension of Delivery Date

If by reason of:

- (i) any Change, in the framework of a Change Order;
- (ii) any suspension of the Agreement by decision of Buyer as per Clause 28.1, except in the case of an Event of Default on the part of Seller;
- (iii) any material breach of Agreement on the part of Buyer (including but not limited to failure of Buyer to make timely payments as required by the Agreement) or failure of Buyer to provide Seller with the approvals and instructions, as necessary and required by this Agreement, storage in accordance with Clause 9, having a material adverse effect on Seller's compliance with the Delivery Date; or,
- (iv) Force Majeure;

Seller demonstrates:

- (a) that such event has a direct and material impact on its obligations under the Agreement; and,
- (b) that it has been or anticipates being delayed in the delivery of the Plant within the Delivery Date;

and provided that Seller shall, without delay and in any event within seven (7) Working Days after the date when the event became known to Seller's personnel working on the Plant, have given to Buyer notice in writing of its claim for an extension of time stating as precisely as possible at that point in time, with the focus being on notifying Buyer of the event and providing information then available, to be later supplemented:

- (aa) the information to be given under Clause 6.2; and,
- (bb) the temporary records which Seller will maintain to substantiate its claim for extension of time;

then Buyer shall grant Seller such extension of time and Contract Price adjustment as may be necessary and equitable to account for the delay suffered by Seller.

To the extent Seller substantially complied with its obligations under this Clause and subject to documentation of such Costs, it shall be entitled to all reasonable Costs incurred by it through events arising out of Clause 6.3(iii). Costs resulting from delays for reasons under Clauses 6.3(i), (ii) and (iv) shall be treated as provided in respectively Clauses 24, 28.1 and 29.

6.4 Restriction on Extension of Delivery Date

The Seller shall not be entitled to an extension of time and/or reimbursement of Costs to the extent that such extension is due to any act, omission or default on the part of Seller.

6.5 Delays - Liquidated Damages

If Seller fails to deliver a Plant by its Delivery Date, as such time may be extended according to Clause 6.3 or otherwise agreed in writing by Buyer, Seller shall be obliged to pay to Buyer Liquidated Damages for delay in achieving the Delivery Date as from the first Day following the Delivery Date until the Day on which delivery of the Plant actually occurs. Prior to applicability of the Liquidated Damages and start of the Liquidated Damages applicability, Seller shall have a four (4) Week grace period from the date of the Delivery Date (i.e. Seller may be late by four (4) Weeks without any application of the Liquidated Damages in this Clause 6.5 or the remedies and rights in Clause 6.6).

For each Plant, the Liquidated Damages for delay in Delivery Date are one half per cent (0.5%) of the Contract Price for that Plant per each Week of delay, pro-rata for any partial Week of delay. Buyer and Seller agree that the stated sums represent an accurate, reasonable and conservative estimate of the actual level of damages Buyer is likely to suffer in the event of such a breach. For each Plant, the total amount of Liquidated Damages for delay in Delivery Date shall not exceed five per cent (5%) of the Contract Price for that Plant. Once this limit has been reached on either Plant, Buyer shall be entitled to exercise the rights provided in Clause 6.6.

Payment of any of such Liquidated Damages shall occur within fourteen (14) Days following the date Buyer submits to Seller an invoice therefore. Buyer shall invoice Seller for any amounts due for Liquidated Damages. The payment of Liquidated Damages shall be Buyer's sole and exclusive remedy and Seller's exclusive liability for any failure to achieve or deliver a Plant (or any portion thereof) by the Delay Limit Date or any agreed extension thereof. Should Seller's failure to deliver a Plant (or any portion thereof) continue beyond the Delay Limit Date, then Buyer shall have the right to pursue and exercise the rights and remedies in Clause 6.6.


If Seller delivers the first Plant four (4) Weeks early (i.e. four (4) Weeks prior to the Delivery Date for that Plant) Seller will receive a bonus of \$1,000,000.00 USD (One Million United States Dollars) on top of the Contract Price for the first Plant.

AB
W

If Seller delivers the second Plant four (4) Weeks early (i.e. the second Plant is delivered four (4) Weeks prior to the Delivery Date for the second Plant) Seller will receive a bonus of \$250,000.00 USD (Two Hundred and Fifty Thousand United States Dollars) and if Seller delivers the second Plant eight weeks early (i.e. the second Plant is delivered eight (8) Weeks prior to the Delivery Date for the second Plant) Seller will receive a bonus of \$500,000.00 USD (Five Hundred Thousand United States Dollars).

6.6 Delays – Other remedies

If the Delay Limit Date has been reached on a Plant, then in addition to its right to receive Liquidated Damages, for the period of delay prior to that date, Buyer shall have the following rights:

- (i) by notice to Seller, to require Seller to agree, within five (5) Working Days of Buyer's demand, to deliver the Plant(s) within the period of time identified by Buyer at discretion. If Seller fails to agree within five (5) Working Days of Buyer's demand, or fails to deliver within such agreed period, Buyer shall be free to exercise any of its rights under (ii) and/or (iii) hereafter; and, at its entire discretion,
- (ii) recover from Seller any direct damages Buyer suffers in accordance with the Agreement subsequent to the Delay Limit Date; 
- (iii) terminate the Agreement in accordance with Clause 28.2; and/or,
- (iv) acquire those portions of the Plant that will have already been manufactured by then, subject to paying Seller for any such portions of the Plant that Buyer acquires at a reasonably commercial valuation per the Contract Value.

6.7 In the event:

- (i) Clause 6.5 is; and/or,
- (ii) the agreement between the Parties set out in Clauses 6.5 and Clause 6.6 are;

found, in whole or in part, for any reason, to be void, invalid or otherwise inoperative, including but not limited to any determination that Buyer is not entitled to claim for and recover Liquidated Damages, Buyer shall in any event be entitled to the remedies set forth in Clause 6.6(i), (ii), (iii) and (iv) and/or to recover for any direct damages suffered prior to the Delay Delivery Date; provided that such damages per delayed Plant shall not exceed five per cent (5%) of the Contract Price for the delayed Plant if Delivery is achieved within the Delay Limit Date or such time agreed in 6.6(i).

7. CONTRACT PRICE AND PAYMENT

AB
w

7.1 Definition of Contract Price

The Contract Price for the performance of Seller's obligations under this Agreement amounts to \$95,000,000.00 USD (Ninety-Five Million United States Dollars) and is a fixed lump sum price.

The Buyer hereby agrees to pay the Contract Price to Seller in accordance with the following payment schedule (the "Payment Schedule"), in consideration for the performance by Seller of all its obligations under the Agreement:

Payment Schedule – relevant Milestones per Plant			
1	Down Payment – 5 Working Days from Effective Date	20%	
2	Engineering	10%	
1	PFD IFR & Simulation Report		15%
2	PID IFR		15%
3	Plot Plan IFR		10%
4	PID IFC		15%
5	Model Review 30%		10%
6	Model Review 60%		10%
7	Model Review 90%		10%
8	Plot Plan IFC		15%
3	Major equipment	30%	
1	Order placed for MR/NH3 Compressors		20%
2	Order placed for Dryer Vessels/Dryer Valves		10%
3	Order Placed for BAHX/ColdBox		10%
4	Drawings Received for MR/NH3 Compressors		15%
5	Drawings Received for BAHX/Coldbox		15%
6	Receipt of MR/NH3 Compressors		15%
7	Ready to Ship for BAHX/Coldbox		15%
4	Fabrication	20%	
1	Steel Fabrication Start		10%
2	Begin Pipe Rack Fabrication		10%
3	Pipe Rack Fabrication 70% Review		10%
4	Piping Complete		20%
5	Electrical Control Panels on Modules		10%
6	Module Painting Complete		10%
7	Insulation Complete		10%
8	Control System FAT Testing		10%
9	Plant Ready to Ship		10%
5	Mechanical Completion	10%	
6	Taking Over	10%	

Am
W

Payment will be made Buyer 30 (thirty) Days from receipt of invoice following completion of the relevant payment Milestones and receipt of all the relevant documentation, in accordance with this Agreement, and shall be remitted by wire transfer to the following account:

Account Title: GE Oil & Gas Inc.
Account Number: 4427190670
Lockbox Number: 845577
Lockbox Address: GE Oil & Gas Inc.
PO Box 845577
Dallas, TX 75284-5577

Wire Instructions:

Bank of America Merrill Lynch
A/C Name: GE Oil & Gas Inc.
901 Main Street
Dallas, TX 75202
ABA routing number: 026009593
SWIFT Code for Bank of America: BOFAUS3N
ACH#: 111000012

- 7.2 Except as otherwise provided in the Agreement, payment shall be made by Buyer in U.S. Dollars, without any setoff whatsoever (including setoff under other contracts with Seller or its Affiliates).
- 7.3 In addition to other remedies under the Agreement, each Party shall pay interest to the other Party, at the rate of one percent (1%) per month (or any fraction thereof), not to exceed the lesser of:
- (i) twelve percent (12%) per annum; or,
 - (ii) the maximum amount permitted by applicable law if less than 12%;
- on all amounts not timely paid by that other Party in accordance with the Agreement.
- 7.4 Subject to Clause 16, the Seller shall be deemed to have satisfied itself as to all the conditions and circumstances affecting the Contract Price, including but not limited to the nature and character of the Plants to be delivered, and to have determined the Contract Price accordingly. Any new conditions or circumstances that arise after the Effective Date shall be subject to Clause 24, Changes.
- 7.5 Seller shall pay each Subcontractor, save for disputes between Seller and any Subcontractor, the amount to which Subcontractor is entitled in accordance with the terms and conditions of their agreement. If a Subcontractor files a direct claim against Buyer for reason of non-payment by Seller, Buyer shall promptly notify Seller in writing so that Seller shall post bond, pay the Subcontractor or otherwise resolve such claim with

AS
W

its Subcontractor; and Seller shall indemnify, defend and hold Buyer harmless from any of Buyer's Costs relating to such action, claim and/or judgment.

- 7.6 Buyer may withhold payment on an invoice or a portion thereof in the event of a failure of Seller to perform the Milestone related to the withheld payment in accordance with the provisions of this Agreement.
- 7.7 Within 30 (thirty) Days of the Effective Date of this Agreement, Buyer will provide a Standby Letter of Credit, in the amount of \$16,150,000.00 USD (Sixteen Million One Hundred Fifty Thousand United States Dollars) covering Buyer's payment obligations under the Agreement to pay the Contract Price. The Standby Letter of Credit shall remain valid until receipt by Seller of the final payment in accordance with the Payment Schedule for the Plants. Buyer shall pay all banking charges, including confirmation as well as all costs, related to the issuance of the Standby Letter of Credit. If Buyer fails to fulfill its payment obligations hereunder and any amount becomes past due for more than thirty (30) Days, Seller reserves the right to require Buyer to increase the Standby Letter of Credit amount up to the unpaid portion of the Contract Price in accordance with the Agreement. The original of the Standby Letter of Credit shall be returned by Seller to the issuing bank upon expiry date of such Standby Letter of Credit, which shall not be prior to Seller's receipt of complete payment of the Contract Price.
- 7.8 Within 30 (thirty) Days of the Effective Date of this Agreement, Buyer will provide a Parent Company Guarantee in the form as appears in Appendix C of the Agreement issued by the Buyer's parent company covering Buyer's payment obligations under the Agreement, up to an amount equal to the Contract Price less those portions of the Contract Price paid to Seller and less the value of the Standby Letter of Credit. The Parent Company Guarantee shall remain valid until the end of the Warranty Period and the original shall be returned to Buyer thereafter.
8. TAXES AND DUTIES
- 8.1 Seller shall be responsible for, and shall pay directly, any and all corporate and personal income taxes imposed on Seller and/or its employees by the legislation of the United States and/or any of its States related to the performance or execution of the Agreement (the "Seller Taxes"). Seller Taxes do not include any tax imposed by the Country.
- 8.2 If Buyer deducts or withholds Seller Taxes from the Contract Price, for each deducted or withheld amount of Seller Taxes, Buyer shall provide Seller, within one (1) Month from payment, with the official receipt issued by the appropriate governmental authority to which Seller Taxes have been paid. If Buyer fails to provide the applicable official receipt within the specified time, Buyer shall refund to Seller an amount equal to the amount withheld. Buyer shall be responsible for, and shall pay directly when due and payable, any and all Buyer Taxes and all payments due and payable by Buyer to Seller under this Clause 8.2 shall be made in full in accordance with this Agreement.

AB
W

- 8.3 If Buyer fails to comply with the legislation of the country where the Plants are delivered, Buyer will indemnify Seller for any cost, risk and responsibility including, but not limited to, fees, taxes, duties, charges, penalties, legal expenses, and interest which Seller might suffer as a result of Buyer's breach in compliance.
- 8.4 If the law of the Country, or the law of the country of incorporation of Buyer, requires the Agreement to be subject to stamp duty, fee, or registration with any local authority, Buyer will be responsible for the required formalities and bear the related costs. Buyer shall return to Seller a copy of the registration certificate or a registered copy of the Agreement within ten (10) Days from the due date provided by the above-mentioned laws to apply for the fee, duty or registration.
- 8.5 If Buyer benefits from any tax, fee or duty exemption applicable to Seller and its Sub-contractors, Buyer agrees to provide Seller, without charge, before the execution of the Agreement with documentation acceptable to the taxing or customs authorities supporting the tax, fee or duty exemption and with instructions for Seller and its Sub-contractors about the procedure to apply for the exemption.
- 8.6 Should Seller be refused to have the right to apply for the tax, fee or duty exemption, or should Buyer not send Seller such documentation, Seller shall invoice and Buyer shall pay forthwith unconditionally the applicable tax, fee or duty.
- 8.7 Buyer will promptly notify in writing Seller about the revocation, expiry or any other change to any exemption. If such notification is late or does not occur, Buyer shall compensate Seller for any tax, duty, fee and fine, penalties, interest and court or administrative costs assessed against or incurred by Seller.
- 8.8 The Contract Price does not include any VAT, GST and other sales, turnover, consumption or service taxes directly levied on the sale of the Plants. Therefore if any such taxes or similar imposts are applied and payable by Seller, they will be added to the Contract Price.

9. DELIVERY, TITLE TRANSFER, RISK OF LOSS, STORAGE

- 9.1 Seller shall deliver the Plants and the Parts FCA Port of Export (Incoterms 2010). Except for those obligations expressly set forth in the applicable Incoterms 2010, Seller shall not be liable in any claim asserted by Buyer with respect to delivery beyond that point. The Delivery Date for each Plant is the date on which Plant in its entirety is delivered in accordance with this Clause. Partial deliveries of portions and/or modules of a Plant will be permitted. Where a partial delivery is possible, Seller shall deliver those portions and/or modules of a Plant, as and when ready, FCA Port of Export (Incoterms 2010), and the Parties shall cooperate to identify the most opportune sequence of the completion and delivery of portions/modules and shall endeavor to work out an agreed schedule for delivery of same. For the avoidance of doubt, delivery of a Plant for purposes of the Delivery Date shall occur only when the Seller has complied with all of

AM
W

~~its delivery obligations for the Plant in its entirety.~~

- 9.2 Title to each Plant, or in the case of a partial delivery, to the portion(s) or module(s) so delivered, and the Parts, shall pass to Buyer upon Seller's completion of its delivery obligations pursuant to Incoterms 2010, FCA Port of Export. Title to each Plant and/or portion(s)/module(s), and the Parts, delivered in the United States of America shall pass from Seller to Buyer immediately after each item departs from the territorial land, seas and overlying airspace of the United States. For this purpose, the Parties acknowledge that the territorial seas of the United States extend to twelve nautical miles from the baseline of the country determined in accordance with the 1982 United Nations Convention of the Law of the Sea. Notwithstanding the above title to Plant(s) and/or portion(s)/module(s) shipped from countries different from Seller's country of incorporation shall pass to Buyer immediately after any such Plant(s) and/or portion(s)/module(s) departs from the territorial lands, waters and skies of the country of export. Buyer shall be responsible for risk of loss to the Plants and/or portion(s)/module(s), and the Parts, once properly tendered at the designated and agreed place of delivery.
- 9.3 Buyer must give evidence of shipment of the Plants and the Parts outside the United States. If Buyer fails to provide the required documents within ten (10) Days from export, Seller shall invoice Buyer the applicable tax, fines, interests and penalties.
- 9.4 If any of the Plants and/or portion(s)/module(s) cannot be delivered to Buyer in accordance with the delivery terms herein due to any cause attributable to Buyer or its affiliates and its or their officers, servants, agents, employees, sub-contractors, suppliers, and/or assigns, including transportation, staging, storage, or shipping service providers, upon notice to Buyer, Seller may ship such Plant(s) and/or portion(s)/module(s) to storage. If such Plants and/or portion(s)/module(s) are placed in storage, including storage at the facility where manufactured, the following conditions shall apply:
- (a) any amount of the Contract Price otherwise payable to Seller upon delivery shall be invoiced by Seller and payable upon presentation of certification as to cause for storage (letter of credit if any to apply to any payment due hereunder upon presentation of notice to storage instead of agreed delivery documents);
 - (b) all expenses incurred by Seller, such as for preparation for and placement into storage, handling, inspection, preservation, insurance, storage, removal charges and any taxes shall be reimbursed by Buyer upon submission of Seller's invoices; and,
 - (c) when reasonably possible and upon payment of all amounts due hereunder, Seller shall resume delivery of the Plants and/or portion(s)/module(s) to the originally agreed point of delivery.

Risk of loss shall pass when the Plants and/or portion(s)/module(s), and the Parts, are delivered at the agreed point. In the event the storage period extends for longer than

AB
W

seventy-five (75) Days the Parties shall reconvene to agree on the schedule to reach delivery.

- 9.5 Buyer shall bear the sole risk of loss for Buyer's equipment during the Agreement term, whether at Site, Seller's facility or in transit from Seller's facility. If repair services are to be performed on Buyer's equipment at Seller's facility, Buyer shall be responsible for transporting the equipment to and from Seller's facility and Buyer shall retain title at all times.

10. SELLER'S OBLIGATIONS

10.1 No liability for review, comments or approval by or on behalf of Buyer

Seller acknowledges that it must rely entirely on its own skill and judgment in the performance of its duties and obligations under this Agreement. Accordingly, the duties, obligations and liabilities of Seller shall not be released, diminished or in any other way affected by any comment or approval, made or given, by or on behalf of Buyer.

10.2 Duty to verify Buyer's information

Seller shall be deemed to have scrutinized, prior to the Effective Date, Buyer's requirements (including the design criteria and calculations, if any) and all other data and information provided by Buyer, in particular as regards the accuracy of these requirements and the consistency of the requirements and sets of information or data mentioned here above.

10.3 Compliance with Law

Seller shall, for the manufacture of the Plants, conform in all respects with the applicable Law and the Plants shall be in full compliance with the applicable Law.

10.4 Strategic Parts Availability

Parts for the Plants (or compatible replacement parts that are subsequently updated by Seller) which are strategic, i.e. those Parts of equipment, equipment assemblies or complete items of equipment which are required for replacement of items not subject to deterioration by normal use but for which failure is critical for continuous operation of the Plant, shall remain available for a period of ten (10) years following the issue of the Taking Over Certificate.

AB
W

11. BUYER'S OBLIGATIONS

11.1 Access to and Possession of the Site

Access to the Site, including the use of Buyer's rights of way and easements, shall be granted to Seller by Buyer for the sole purpose of performing Seller's obligations under the Agreement.

11.2 Access not exclusive

The access to and possession of the Site shall not be exclusive to Seller but only such as shall enable it to perform Seller's Scope of Supply.

11.3 Personnel for Acceptance Tests

When the Plant is ready for any acceptance or testing that may be required in the Scope of Supply, the Buyer will provide the normal operating and maintenance personnel under the technical direction and supervision of the Seller. For the avoidance of doubt, Seller's personnel shall never be deemed to be Buyer's employees, and vice versa.

11.4 Electricity, Water and Gas

The Buyer shall be responsible at its own costs for the provision of all utilities, including but not limited to electricity, gas, water (including drinking water) for activities necessary to be performed on Site, including for the performance of the Acceptance Tests -- to the extent any Acceptance Tests are applicable in the Agreement scope. The Buyer shall also be responsible for and bear the costs of all arrangements for connection, metering and distribution.

11.5 Organization on Site

Buyer shall have in place safety policies and security on Site. Seller's personnel to observe and comply with all safety and security protocols of Buyer provided to Seller in writing in advance.

12. DOCUMENTATION BY SELLER

12.1 Reports

Seller shall prepare and submit to Buyer at the appropriate time the progress reports as detailed in Appendix A. Seller shall submit all such other information and reports in relation to the Plants as Buyer shall reasonably request from time to time upon Seller's agreement, such agreement not to be unreasonably withheld; and excepting that Seller

AM
W

does not have an obligation to deliver any reports or deliverables containing any proprietary or intellectual property of Seller, other than those listed as deliverables in the Appendix A.

12.2 Submission of Technical Documentation

Appendix A specifies which Technical Documentation is to be submitted to Buyer by Seller. Seller shall submit such Technical Documentation to Buyer within the time required in Appendix A.

The Technical Documentation which must be drawn up by Seller shall include all portions of the Plants; however this sentence shall not obligate Seller to provide documents which it or its Subcontractors consider proprietary or intellectual property not normally provided to customers.

Buyer may give comments on any Technical Documentation submitted within fifteen (15) Working Days, unless mutually agreed otherwise. Should Buyer not reply within this period, the Technical Documentation shall be deemed to have been accepted by Buyer.

The Technical Documentation shall include Seller's standard Operation And Maintenance Manuals and the functional descriptions, in sufficient detail, to enable competent personnel to operate, maintain and repair the Plants.

All Technical Documentation will be transmitted to Buyer in their as built status and so marked, in one package called the Final Technical File, according to the Agreement and at the latest one (1) Month after the Delivery Date.

Seller shall during the Warranty Period revise and/or update the Operation And Maintenance Manuals as needed, and, if necessary (in Seller's sole discretion), issue a (new) version such Final Technical File.

12.3 Buyer's use of Technical Documentation supplied by Seller

The copyright and all existing intellectual property rights (and any developed intellectual property during the course of Seller's performance of the Agreement) in the Plants and contained in the Technical Documentation, including all technical documents related to standard or proprietary machinery, shall remain vested and titled in Seller; Seller shall use these documents for the Plants and Buyer hereby receives a non-exclusive, non-transferrable, limited license to the extent necessary to use the Technical Documentation for the operation, maintenance and repair of the Plants. Buyer may at any time, upon receipt of Seller's written consent, assign such license to any person authorized under this Agreement to be assigned this Agreement (including without limitation the Lenders) to whom the Plant may be assigned in whole or in part.

AS
W

12.4 Errors in Technical Documentation

Seller shall be liable for any Cost incurred in correcting any discrepancies, errors or omissions in the Technical Documentation prepared by it or on its behalf.

Any damage to or Defect in the Plants due to an error in the Technical Documentation shall be subject to Clause 17, Warranty.

13. MACHINERY, EQUIPMENT AND WORKMANSHIP

13.1 Manner of Execution

The Plants shall be manufactured in the manner set out herein and in the Scope of Supply.

Both Plants will be manufactured and assembled from a designated facility within the United States of America or Europe (unless mutually agreed otherwise). Without the express consent of Buyer, for quality reasons, Seller shall not include any major parts in the Plants manufactured in China.

If Seller desires to propose a method or to use machinery other than that specifically described herein and in Appendix A, it shall in all cases submit such proposal for consideration to Buyer and it shall not make the substitution unless approved by Buyer, such approval not to be unreasonably withheld.

13.2 Quality of Materials

The Plants shall be brand new and unused upon delivery and shall in any event be in accordance with the standards set forth in the Agreement.

The Plants shall be treated to resist deterioration due to the normal prevailing local conditions on Site in accordance with the mutually agreed specifications of Appendix A.

14. TESTING AND RIGHT TO INSPECT DURING MANUFACTURING

14.1 Traceability of materials

Seller documents that are included as deliverables in Appendix A (including the Technical Documentation) shall be submitted to Buyer for approval, in accordance with the timeline agreed in the Scope of Supply, yet after approval by Seller. These documents shall be submitted in one (1) package for each Plant to be delivered.

Am
W

Seller shall, to the extent commercially reasonably practicable, implement a 'Materials Traceability System', whereby an individual number, defined by Buyer, will be assigned to all pieces built in or destined to be built into the Plants.

14.2 Inspection and testing during manufacturing

Buyer shall be entitled during the manufacturing of the Plants to inspect and examine the materials and workmanship, in accordance with the Inspection Test Plan, to be mutually agreed upon in accordance with Appendix A, to attend any scheduled test on Seller's premises during working hours, and to check the progress of manufacture of the Plants (or such major items thereof) to be supplied under the Agreement, and if parts of the said Plants are being manufactured on other premises, Seller shall, upon receipt of written request from Buyer, make commercially reasonable efforts to obtain for Buyer permission to inspect, examine and attend any test, provided that such inspection, examination or attendance of tests shall not delay the execution of the works (without prejudice to Clause 14.3). If any inspection not in the Inspection Test Plan adversely impacts Seller's ability to meet the Delivery Date, Seller shall be entitled to a Change Order. Such inspection, examination or attendance of tests, if made, shall not grant access to areas of Seller's facilities not related to the execution of the Scope of Supply or where other work of a proprietary nature is being performed.

14.3 Dates for inspection and testing

Seller shall comply with the Inspection Test Plan. Buyer shall have the right to witness such activity of inspection or testing in accordance with the Inspection Test Plan. Buyer has the right to ask for additional witness points during the manufacturing of the Plants, subject to Seller's sole discretion and a Change Order for any impact on Contract Price or Delivery Date.

The Parties shall agree (at least eight (8) Working Days prior to the proposed date) on the date on, and the place at, which the Plants and/or portion(s)/module(s) will be ready for inspection and/or testing. Should any postponement become necessary, Seller shall provide written notification of the same at least three (3) Working Days prior to the originally scheduled date. Buyer shall give Seller two (2) Working Days notice in writing of its intention to attend the tests, or ask for a postponement of not more than twenty-four (24) hours if required.

Should Buyer not attend the tests at the place and on the date which Seller has stated in its notice, Seller may proceed with the tests and shall forthwith forward to Buyer the test results.

If Buyer decides, at receipt of the test results, that the test should be repeated in its presence (even though the test results, in the opinion of Seller, were satisfactory), all the consequences of such repeat test (additional Cost and delay suffered by Seller) shall be borne by Buyer, unless such repeat tests give results materially not in accordance with the Agreement, in which case they shall be borne by Seller. If however Buyer does not notify

AB
W

Seller, within five (5) Working Days after receipt of the test results, that it has decided that the test should be repeated in its presence, Seller shall not be obliged to repeat such test.

14.4 General right to inspect during manufacturing

Buyer shall be entitled to inspect the Plants during Seller's manufacturing at Seller's facilities, during working hours after having given to Seller a reasonable notice provided that such inspection shall not cause undue interference. Any inspection of the Plants by Buyer (or by the Lenders or any agent thereof) shall not release Seller from any obligation under the Agreement nor constitute an acceptance by Buyer or any other party of any of the Plants inspected or tested.

14.5 Certificate of testing

As and when the Plants shall have passed the tests referred to in the Agreement during the manufacturing, Seller shall prepare the report with all required supporting data and shall deliver the same to Buyer, together with a test certificate.

If the tests are successful and all required supporting data have been delivered, Buyer shall sign the test certificate and return it to Seller. If the test report has not been disputed by Buyer within five (5) Working Days of receipt, the test certificate shall be deemed approved by Buyer.

14.6 Failure on tests or inspection

If as a result of any inspection, examination or test of the Plants, other than for the purpose of the Acceptance Tests, Buyer shall consider with reasonable justification that the Plants and/or portion(s)/module(s) contain any Defect or is not in accordance with the Agreement, Buyer shall notify Seller accordingly stating in writing its objection and reasons therefore. Seller shall promptly investigate Buyer's claim, and if a Defect is found to exist, remedy such Defect. Thereafter, if a Defect is discovered before Delivery Date and then if required by Buyer, the necessary tests not passed shall be repeated under the same terms and conditions save that all Costs because of the repetition of the tests shall be for Seller's account.

14.7 Right to inspect by others

In exercising its rights to inspect the Plants and/or to attend any tests under the Agreement, Buyer shall, upon consent of Seller, be entitled to be accompanied by any Lenders, Lender's Engineer, advisor(s) of Buyer, or any adjusters or insurers' representatives, provided that such accompanying persons may be first required by Seller to enter a separate non-disclosure agreement with Seller.

Seller shall allow any Lenders and the adjusters and insurers, by representatives thereof the same rights of test attendance as are enjoyed by Buyer pursuant to the Agreement,

AS
W

whether or not such inspection is made with Buyer, provided that such accompanying persons may be first required by Seller to enter a separate non-disclosure agreement with Seller.

15. DELIVERY OF THE PLANTS

15.1 Delivery

Unless Buyer shall otherwise direct, no Plant shall be delivered without having been tested in accordance with the Inspection and Test Plans as provided in Appendix A.

15.2 Packing and Marking

The Plants and/or portion(s)/module(s) shall be packed in containers or packing/package in accordance with Seller's standard practices.

All packing shall be consistent with what is normally used for similar equipment for transport from factories/port of embarkation via rail/road/sea/air freight, rough handling at all points of transit including but not limited to transit to the ultimate port of destination in the Country, inland transport and movement to the Site, as applicable and anticipated given the prevailing conditions in the Country.

All packing shall be suitably marked. Seller will reasonably cooperate with Buyer's reasonable advance written requests for documentation required in support of the importation of the Plants to the Country.

15.3 Detailed specification and procedure

Thirty (30) Days prior to the Delivery Date or the actual delivery in case of a partial delivery, Seller shall prepare and submit to Buyer, for information and approval, the detailed specification of packing and marking, specify the type and number of documents to be prepared and transmitted, with the form for each of them, all in accordance with the Agreement.

15.4 Warranty of ownership

Seller warrants and guarantees title to the Plants provided under the Agreement, and Seller warrants and guarantees that title and ownership thereto shall pass to and vest in Buyer, as agreed in the Agreement, free and clear of any and all Liens, claims, charges, security interests, encumbrances and rights of other persons arising as a result of any actions or failure to act of Seller, Subcontractors, or employees or representatives of either.

15.5 Clearance through customs

AB
W

Seller shall be responsible for clearance of the Plants through customs in the country of export, and shall pay all dues and costs of any nature related thereto, Buyer to provide all necessary support and documentation as may be required to efficiently effect such clearances.

Buyer shall be responsible for clearance of the Plants through customs in the Country, and shall pay all dues and costs of any nature related thereto, Seller to provide all necessary support and documentation as may be required to efficiently effect such clearances.

16. COMPLIANCE WITH LAWS, CODES AND STANDARDS

16.1 The Contract Price is based on Seller's design, manufacture, testing and delivery of the Plants pursuant to:

- (i) its design criteria, manufacturing processes and procedures and quality assurance program;
- (ii) those portions of industry specifications, codes and standards in effect as of the date of the Agreement which are applicable to the Plants;
- (iii) the United States Federal, State and local laws, the local laws of the country of manufacturing of the Plants or of the place of incorporation of Seller and any regulations or rules in effect on the Effective Date; and,
- (iv) the mutually agreed upon specifications contained in Appendix A.

16.2 Buyer agrees not to re-export United States origin goods supplied by Seller contrary to the export control laws of the United States and European Union, as may be amended.

16.3 In the event of any change to any applicable law, regulation, rule, trade control, governmental decree, standard or otherwise, at any time after the Effective Date, which shall have the effect of:

- (i) placing Seller in breach of such Law when executing the Agreement; and,
- (ii) makes Seller's execution of its obligations illegal, which cannot be remedied by a mutually agreed Change Order;

Seller shall have the right to terminate the Agreement without any liability.

16.4 The Plants sold hereunder are not intended for application (and shall not be used) in connection with any nuclear installation or activity and Buyer warrants that it shall not use the Plants for such purposes, or permit others to use or permit others to use the Plants for any such purposes. If, in breach of the foregoing, any such use occurs, Seller shall

AS
C

have no liability for any nuclear or other damage, injury or contamination, and Buyer shall indemnify Seller, its Affiliates and suppliers of every type and tier against any such liability, whether arising as a result of breach of contract, warranty, indemnity, tort (including negligence), strict liability or otherwise.

- 16.5 Notwithstanding any other provisions herein, Buyer shall be responsible for timely obtaining of any required authorization, such as an import license, foreign exchange permit, work permit or any other governmental authorization, even though any such authorization may be applied for by Seller, except insofar as such authorization(s) relates to the individuals who Seller may utilize to perform warranty or repair services to the Plants pursuant to the terms and conditions of the Agreement. Buyer and Seller shall provide each other reasonable assistance in obtaining required authorizations.
- 16.6 Seller acknowledges that, in connection with the performance of this Agreement, the export and customs laws and regulations of the country in which Seller's facility is located apply to the furnishing and shipment of the Plants. In case the Plants, which are to be exported outside of the United States by Seller, are considered, or are likely to be considered by the relevant authorities as 'dual use', Buyer shall or shall cause the end user of the products, where such products are destined to be installed and/or used, to provide Seller, immediately upon its request, with an 'End User Statement' in accordance with the relevant legal requirements as applicable at the time. In case of delay in providing such 'End User Statement' Seller shall not be liable to Buyer for any delay and shall not be considered in breach or in default of any of its obligations under the Agreement.

17. WARRANTY

- 17.1 Seller warrants to Buyer that the Plants and/or Parts shall be free from Defects in material, workmanship and title and in accordance with any mutually agreed specifications including those set forth in Appendix A.
- 17.2 The Warranty Period for each of the Plants (excluding Parts) shall be:
- (i) twenty-four (24) months from the date of passing Acceptance Test; or,
 - (ii) thirty (30) months from the Delivery Date, or from the date of notice of the Plants being ready for shipment, in the event such delivery cannot take place for reasons not ascribable to Seller;

whichever occurs earlier. The Warranty Period for Parts will be:

- (a) eighteen (18) months after the Delivery Date; or,
- (b) twelve (12) months after installation, whichever occurs first.

ABJ
W

17.3 If a Defect appears within the Warranty Period, Buyer shall promptly notify Seller in writing and promptly make the (component of the) Plant available for correction/inspection within a commercially reasonable time period thereafter. Seller, at its expense, shall thereafter correct any Defect by, at its option:

- (i) repairing the defective Plant, Parts or components; or,
- (iii) by making available necessary replacement Parts or components in accordance with the original delivery term;

and Seller shall reimburse Buyer for any reasonable and evidenced transportation Costs. Seller shall not be responsible for removal or replacement of systems, structures or other parts of Buyer's facility to grant Seller access to the Plants, provided that access through or within the Plant shall be for Seller's account. Any repair, replacement or re-performance by Seller hereunder shall extend the applicable Warranty Period on such repaired, replaced or re-performed component of the Plant or Part for a period of twenty-four (24) Months, provided that in no event shall the Warranty Period extend beyond:

- (i) forty-eight (48) Months from the date of passing Acceptance Test; or,
- (ii) fifty-four (54) Months from the Delivery Date, or from the date of notice of the Products being ready for shipment, in the event such delivery cannot take place for reasons not ascribable to Seller;

whichever occurs earlier. Seller shall have no liability for Defects that arise after the Warranty Period (including any extensions allowed by the preceding sentence) has expired.

All decontamination work necessary for the remedying of Defects shall be performed by Buyer at Seller's expense; provided that should a Defect not have occurred, the expense will be Buyer's. The testing of any replaced or repaired (parts of the) Plants or Parts, equipment or components shall be performed in the same manner as originally contemplated under the Agreement, and Buyer shall be notified of and may be represented at all tests that may be made.

17.4 If Seller fails or is unable to remedy a Defect within a reasonable time:

- (i) the Parties will negotiate an equitable compensation for Buyer, but in case the Parties do not agree on such an equitable compensation within thirty (30) Days, Buyer has the right to recover against Seller for Buyer's direct damages in accordance with the Agreement incurred as a result of Seller's failure or inability to remedy the Defect; and,
- (ii) in the event that due to Seller's failure or inability to remedy the Defect Buyer is deprived of a substantial part of the benefit of the Plant, Buyer may terminate the Agreement in accordance with Clause 28.2.

AS
W

17.5 Seller does not warrant the Plants or Parts or any repaired or replacement parts against normal wear and tear including that due to unique environmental conditions or normal operations, excessive operation at peak capability (unless peak capability is warranted to be achievable in the ordinary course of operations), excessive starting, type of fuel, detrimental air inlet conditions or erosion, corrosion or material deposits from fluids or which has been involved in an accident. The warranties and remedies set forth herein are further conditioned upon:

- (i) the proper storage (to the extent it is the responsibility of Buyer or its Affiliates and its or their officers, servants, agents, employees, sub-contractors, suppliers, and/or assigns, including transportation, staging or storage, or shipping service providers), installation, operation, and maintenance of the Plants and Parts, and conformance with the operation instruction and installation ('TPI') manuals (including revisions thereto) provided by Seller; and,
- (ii) repair or modification pursuant to Seller's instructions or approval.

Seller does not warrant any equipment or services of others designated by Buyer where such equipment or services are not normally supplied by Seller.

17.6 WITHOUT PREJUDICE TO THE PERFORMANCE AND AVAILABILITY GUARANTEES EXPRESSLY PROVIDED IN THE AGREEMENT, THE PRECEDING PARAGRAPHS OF THIS CLAUSE 17 SET FORTH THE EXCLUSIVE REMEDIES FOR ALL CLAIMS BASED ON FAILURE OF OR DEFECT IN THE PLANTS OR PARTS PROVIDED UNDER THE AGREEMENT, WHETHER THE FAILURE OR DEFECT ARISES BEFORE OR DURING THE WARRANTY PERIOD AND WHETHER A CLAIM, HOWEVER INSTITUTED, IS BASED ON CONTRACT, INDEMNITY, WARRANTY, TORT/EXTRA-CONTRACTUAL LIABILITY (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE. THE FOREGOING WARRANTIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS AND GUARANTEES WHETHER WRITTEN, ORAL, IMPLIED OR STATUTORY. NO IMPLIED STATUTORY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY.

13. INTELLECTUAL PROPERTY

13.1 Seller agrees to indemnify and hold harmless Buyer from any claim (a "Claim") of any third party that the processes, Plants, Parts and/or services furnished hereunder infringes any patent of the United States or national patent resulting from the grant by the European Patent Office upon termination of any opposition procedure, provided that:

- (a) Buyer promptly notifies Seller in writing of any such Claim about which it becomes aware;

- (b) Buyer makes no admission of liability and does not take any position adverse to Seller regarding such Claim and gives Seller sole authority, at Seller's expense, to direct and control all defense, settlement and compromise negotiations; and,
 - (c) Buyer provides Seller with full disclosure and assistance that may be reasonably required to defend any such Claim, all costs incurred for same to be paid by Seller.
- 18.2 Seller shall have no obligation or liability with respect to any Claim based upon:
- (a) any processes, Plants, Parts or services that have been altered, modified, or revised by Buyer without Seller's authorization or direction;
 - (b) the combination, operation, or use of any Plants, Parts or services with other products or services when such combination is part of any allegedly infringing subject matter;
 - (c) failure of Buyer to implement any update provided by Seller that would have prevented the Claim; or,
 - (d) unauthorized use of the Plants, Parts or services, including, without limitation, a breach of the provisions of the Agreement.
- 18.3 Should any processes, Plants, Parts or services, or any portion thereof, become the subject of a Claim, Seller may at its option:
- (a) procure for Buyer the right to continue using the processes, Plants, Parts or services, or portion thereof;
 - (b) modify or replace it in whole or in part to make it non-infringing; or,
 - (c) failing (a) or (b), take the Plant and/or Part and refund any fees received by Seller attributable to the infringing Plant, Part or service; provided that if the Plant or Part taken back by Seller under Clause 18.3(c) renders the Plant inoperable, the refund shall be for the Plant and Seller shall take back the Plant.
- 18.4 The foregoing states Seller's entire liability for indemnifications for intellectual property rights infringement, for Plants and Parts. Buyer waives any moral rights.
- 18.5 Each Party shall retain ownership of all Confidential Information and intellectual property it had prior to the Agreement. All intellectual property conceived, created, or provided by Seller, whether alone or with any contribution from Buyer or its personnel, shall be owned exclusively by Seller. For example, Seller shall own exclusively all rights in ideas, inventions, works of authorship including derivative works, strategies, plans, data, and other intellectual property created in or resulting from the Agreement,



including but not limited to all patent rights, copyrights, moral rights, rights in proprietary information, database rights, trademark rights and other intellectual property rights. To the extent that Buyer may acquire any right or interest therein, Buyer irrevocably assigns all such right and interest exclusively to Seller and agrees to execute assignments and other documentation as necessary to achieve that result. Nothing in this Agreement shall be deemed to grant a license directly or by implication, estoppel, or otherwise, to any such intellectual property, although the Parties may provide for such a license in a separate written agreement.

19. INDEMNITY AND LIMITATION OF LIABILITY

19.1 Seller hereby agrees to indemnify and hold harmless Buyer from any physical damage to property of third parties or injury to persons, including death, to the extent resulting directly from the negligence of Seller or its officers, servants, agents, employees, Sub-contractors and/or assigns while engaged in activities under or in furtherance of this Agreement. Buyer shall likewise indemnify and hold harmless Seller from any physical damage to property of third parties or injury to persons, including death, to the extent resulting directly from the negligence of Buyer, its officers, servants, agents, employees, sub-contractors and or assigns, while engaged in activities under or in furtherance of this Agreement. In the event such damage or injury is caused by the joint or concurrent negligence of Seller and Buyer, the loss shall be borne by each Party in proportion to its respective negligence. For purposes of Seller's indemnity responsibility under this Clause 19.1, no portion of Buyer's equipment, facility or the Site is considered third party property; provided that Seller shall indemnify Buyer for physical damage:

- (a) to the Plant up to twenty five million dollars (\$25,000,000.00 USD); and,
- (b) to Buyer's equipment, facility or the Site up to ten million dollars (\$10,000,000.00 USD);

each only to the extent resulting directly from the negligence of Seller or its officers, servants, agents, employees, Sub-contractors and/or assigns while engaged in activities under or in furtherance of this Agreement, above such amounts Buyer shall release, indemnify and hold Seller harmless from and against all claims and damages REGARDLESS OF WHETHER SELLER'S NEGLIGENCE IN ANY FORM CAUSES DAMAGES IN EXCESS OF SAID AMOUNTS.

19.2 THE TOTAL AGGREGATE LIABILITY OF SELLER FOR ALL CLAIMS OF ANY KIND, WHETHER IN CONTRACT, WARRANTY, INDEMNITY, TORT/EXTRA-CONTRACTUAL LIABILITY (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR OTHERWISE, ARISING OUT OF OR RELATING TO THE PERFORMANCE OR BREACH OF THE AGREEMENT OR USE OF ANY PART OR PLANT, SHALL NOT EXCEED THE TOTAL CONTRACT PRICE OF THE PLANT GIVING RISE TO THE CLAIM. SELLER'S LIABILITY SHALL TERMINATE FIFTY-FOUR (54) MONTHS AFTER THE DELIVERY DATE, PROVIDED THAT BUYER MAY ENFORCE ANY

AP
h

CLAIM THAT ACCRUED PRIOR TO THAT DATE BY COMMENCING AN ACTION OR FILING AN ARBITRATION WITHIN SIXTY (60) MONTHS AFTER THE DELIVERY DATE, AS PER CLAUSE 20.

- 19.3 WITHOUT PREJUDICE TO THE GUARANTEED PERFORMANCE EXPRESSLY PROVIDED IN THE AGREEMENT, AND EXCEPT IN A CASE OF WILFUL MISCONDUCT, IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, INDEMNITY, TORT/EXTRA CONTRACTUAL LIABILITY (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR OTHERWISE, SHALL EITHER PARTY OR ITS SUBCONTRACTORS OR SUPPLIERS BE LIABLE FOR LOSS OF PROFIT OR REVENUES, LOSS OF USE OF THE PLANT, PARTS OR ANY ASSOCIATED EQUIPMENT, DOWNTIME COSTS, CLAIMS OF A PARTY'S CUSTOMERS FOR SUCH DAMAGES, OR FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, INDIRECT OR EXEMPLARY DAMAGES.
- 19.4 If Buyer is furnishing Seller's Plants or Parts to a third party by contract or using Seller's Plants or Parts at a facility owned by a third party, Buyer shall obtain from such third party a provision affording Seller the protection of this Clause and shall, in any event, indemnify and hold Seller harmless for and against any liability arising out of claims made by the third party in excess of the limitations and exclusions provided in this Agreement.
- 19.5 If Seller furnishes Buyer with advice or activities concerning any products or services which is not required pursuant to the Agreement specification, the furnishing of such advice or activities will not subject Seller to any liability, whether in contract, warranty, indemnity, tort (including negligence), strict liability or otherwise.
- 19.6 Except to the extent Seller has a responsibility or liability under Clause 17 or as expressly stated in Clause 19.1, Buyer waives rights of recovery against Seller for loss or damage to property of Buyer, whether Buyer's claim is brought under breach of contract, warranty, indemnity, tort (including negligence), strict liability or otherwise.
- 19.7 For the purposes of this Clause, the term "Seller" shall mean Seller, its Affiliates, Subcontractors and suppliers of any tier, and their respective agents and employees, whether individually or collectively.
- 19.8 The provisions of this Clause shall prevail over any conflicting or inconsistent provisions contained in any of the documents comprising this Agreement, except to the extent that such provisions further restrict Seller's liability.
20. DISPUTE RESOLUTION
- 20.1 In the event of any dispute arising out of or in connection with the Agreement, the Parties agree to submit the matter to arbitration to be administered by the AAA under its
- AB
W

Commercial Arbitration Rules before a board of three (3) persons consisting of one (1) arbitrator to be appointed by Seller, one (1) arbitrator by Buyer, and one (1) by the two so chosen, who will act in the capacity as procedural chairman. The seat, or legal place, of the arbitration shall be New York City, New York. The language to be used in the arbitration shall be English. Judgment on any award rendered by the arbitrators, or a majority thereof, may be entered by a court of competent jurisdiction.

20.2 In the event Buyer makes claims against Seller and the Services Provider under the Services Contract;

then in such case:

- (a) Seller agrees to appear and participate as a party defendant in the same New York arbitration proceedings commenced under the Services Agreement;
- (b) the arbitration shall be conducted in one proceeding before a single board of three persons consisting of one (1) arbitrator to be appointed jointly by Seller and Services Provider, one (1) arbitrator by Buyer, and one (1) by the two so chosen, who will act in the capacity as procedural chairman, all other terms and conditions of this Clause to apply;
- (c) In the case of an arbitration involving Seller and Services Provider, Seller agrees that it shall not assert Services Provider's performance or non-performance under the Service Contract as a defense to any claim by Buyer.

21. GOVERNING LAW

- 21.1 This Agreement shall be governed by and construed in accordance with the laws of the state of New York, U.S.A., without regard to its conflict or choice of laws rules. It is further expressly agreed and understood of the UN Convention on the International Sale of Goods (CISG) shall not apply to this Agreement or any dispute hereunder.

22. CONFIDENTIALITY

- 22.1 In connection with the Agreement, Seller and Buyer (as to information disclosed, the "Disclosing Party") may each provide the other party (as to information received, the "Receiving Party") with Confidential Information. "Confidential Information" means:

- (a) all pricing for Plants and Parts;
- (b) all information that is designated in writing as "confidential" or "proprietary" by Disclosing Party at the time of written disclosure; and,
- (c) all information that is orally designated as "confidential" or "proprietary" by Disclosing Party at the time of oral disclosure and is confirmed to be

AD
3

"confidential" or "proprietary" in writing within ten (10) days after oral disclosure.

The obligations of this Clause shall not apply as to any portion of the Confidential Information that:

- (i) is or becomes generally available to the public other than from disclosure by Receiving Party, its representatives or its affiliates;
- (ii) is or becomes available to Receiving Party or its representatives or affiliates on a non-confidential basis from a source other than Disclosing Party when the source is not, to the best of Receiving Party's knowledge, subject to a confidentiality obligation to Disclosing Party;
- (iii) is independently developed by Receiving Party, its representatives or affiliates, without reference to the Confidential Information;
- (iv) is required to be disclosed by law, a valid legal process or a government agency;
- (v) is approved for disclosure in writing by an authorized representative of Disclosing Party; or,
- (vi) Seller discloses to its financial advisors for analytical purposes, provided that such financial advisors are subject to an obligation as to confidentiality no less onerous than that set out in this Clause 22.

22.2 Receiving Party agrees:

- (i) to use the Confidential Information only in connection with the Agreement and permitted use(s) and maintenance of the Plants;
- (ii) to take reasonable measures to prevent disclosure of the Confidential Information, except to its employees, agents or financing parties who have a need to know for Buyer to perform its obligations under the Agreement or to use and maintain Products or Services; and,
- (iii) not to disclose the Confidential Information to a competitor of Disclosing Party.

Receiving Party agrees to obtain a commitment from any recipient of Confidential Information to comply with the terms of this Clause. Confidential Information shall not be reproduced without Disclosing Party's written consent, and Receiving Party shall return all copies of Confidential Information to Disclosing Party upon request except to the extent that the Agreement entitles Receiving Party to retain the Confidential Information. Seller may also retain one copy of Buyer's Confidential Information until all its potential liability under the Agreement terminates.

AD
W

- 22.3 If Receiving Party or any of its affiliates or representatives is required by Law, legal process or a government agency to disclose any Confidential Information, that party agrees to provide Disclosing Party with prompt written notice to permit Disclosing Party to seek an appropriate protective order or agency decision or to waive compliance by Receiving Party with the provisions of this Clause. In the event that efforts to secure confidential treatment are unsuccessful, Receiving Party may lawfully revise the Confidential Information to make it non-proprietary or to minimize the loss of its proprietary value.
- 22.4 Nothing in Clause 22 grants Receiving Party any license to any invention, patent, trademark or copyright now or later owned or controlled by Disclosing Party.
- 22.5 Buyer shall not disclose Confidential Information to Seller unless it is required to do so to enable Seller to perform work under the Agreement. If Buyer does disclose Confidential Information, Buyer warrants that it has the right to disclose the information, and Buyer shall indemnify and hold Seller harmless against any claims or damages resulting from improper disclosure by Buyer.
- 22.6 Neither Seller nor Buyer shall make any public announcement about the Agreement or related documents, including its existence, without prior written approval of the other Party.
- 22.7 As to any individual item of Confidential Information, the restrictions of this Clause shall expire the earlier of five (5) years after the date of disclosure or three (3) years after termination or expiration of the Agreement.

23. REMOTE DIAGNOSTIC SERVICES, RENTAL TOOLS, TRAINING

- 23.1 If Seller provides any remote diagnostic services or rental tools to Buyer, the terms of this Agreement shall apply including the Remote Diagnostic Services Addendum, the Rental Tools Addendum, and the Training Addendum, as applicable. If there is any conflict between the Agreement and the terms of any applicable Addendum, the terms of the applicable Addendum shall prevail.

24. CHANGES

- 24.1 Either Party shall be entitled to request Changes, and subject to this Clause, Buyer shall be entitled to instruct Changes to Seller.
- 24.2 Seller shall within a reasonable time after having received a Buyer Change, or together with a Seller issued Change, remit a proposal (a "Proposal For Change Order") to Buyer, which will include at least the following, in Seller's opinion:
- (i) impact, if any, (in addition or in deduction) on Contract Price;



- (ii) impact, if any, on the Delivery Date;
- (iii) alteration, if any, on warranties or guarantees (including Guaranteed Performances);
- (iv) description of the alteration of the Scope of Supplies and/or the Agreement; and,
- (v) any other effect, if any.

Buyer and Seller shall each use reasonable efforts to agree upon the Proposal For Change Order as soon as possible:

- (a) if Buyer agrees with the Proposal For Change Order issued by Seller, Buyer shall issue a Change Order; but,
- (b) if Buyer and Seller are unable to agree on the Proposal For Change Order, Buyer shall have the right to refuse to issue the Change Order.

No Change shall be made by Seller without a Change Order from Buyer, signed by representatives of each Party who have actual authority to legally bind Buyer or Seller and which Change Order will subsequently become an integral part of the Agreement.

24.3 However, notwithstanding 24.2(b), in the event a Change has an impact on the Contract Price or the Delivery Date:

- (i) Seller may not proceed to implement a Seller requested Change; and,
- (ii) Seller shall not be obligated to proceed to implement a Buyer requested Change;

unless and until both Parties agree in writing on an equitable adjustment to the Contract Price and/or the Delivery Date, it being understood that:

- (a) Seller shall nevertheless proceed with the unchanged Scope of Supply during resolution on the equitable adjustment; and,
- (b) notwithstanding the foregoing, if a Change has an impact:
 - (x) on the Contract Price which is less than \$50,000.00 USD (Fifty Thousand United States Dollars); or,
 - (y) on the Delivery Date which is less than five (5) Days;

Seller shall proceed with the Change pending agreement of the Parties on the equitable adjustment to the Contract Price and/or the Delivery Date, provided that

AB
w

if the Parties cannot agree on such equitable adjustment within thirty (30) Days, Seller is permitted to stop working on the Change.

- 24.4 Any changes in applicable laws, rules and regulations as further detailed in Clause 16 that affect Contract Price or Delivery Date shall be treated as a Change.
- 24.5 No Change shall in any way invalidate the Agreement and, in carrying out such Change, the Parties shall be bound by the Agreement, except for the Change itself.
- 24.6 All Plants and Parts shall conform to Seller's part or version number specified or (at Seller's option) its equivalent or the superseding number subsequently assigned by Seller. If the number ordered is no longer available, Seller is authorized to ship a valid interchangeable Product without notice to Buyer.

25. PERFORMANCE TESTS – GUARANTEED PERFORMANCES – REMEDIES

25.1 Seller understands that if a Plant fails to achieve the Guaranteed Performances, Buyer will suffer substantial damages.

25.2 Performance Test Results.

- (i) If, within thirty (30) Days following the commencement of the Performance Tests, any two (2) test results demonstrate that the Plant has achieved all of the Guaranteed Performances in respect of that Plant, then the Guaranteed Performances shall be considered to have been met for the purposes of Taking Over that Plant.
- (ii) If the Performance Guarantees are not met as per Clause 25.2(i) above and Seller has not been delayed in or interfered with conducting the Performance Tests or achieving such Performance Guarantees as per Clause 25.2(i) for any reason not attributable to Seller, and
- a. the average of any two (2) test results obtained during the thirty (30) Day period referenced above, when calculated under the Liquidated Damages formula set out below, yields a value equal to or less than five percent (5%) of the Contract Price, Seller shall pay Liquidated Damages to Buyer at the calculated sum and the Guaranteed Performances shall be considered to have been met for the purposes of Taking Over that Plant; or
 - b. if the average of any two (2) test results obtained during the thirty (30) Day period referenced above, when calculated under the Liquidated Damages formula set out below, yields a value greater than five percent (5%) of the Contract Price, the Plant's failure in this respect shall be considered an unremediated Defect and Buyer shall to have the remedies provided in Clause 17.4.

AB
W

Up to three (3) full forty-eight (48) hour cycle Performance Tests, if performed, shall be at Buyer's expense. Remedying any Guaranteed Performance issues during the thirty (30) Day period shall be at Seller's expense.

25.3 The Liquidated Damages described herein shall be calculated as follows:

- (i) \$458.33 USD for every kilowatt of power consumption per LNG gallon produced in excess of the Guaranteed Performance for Power Consumption;
- (ii) \$50,000.00 USD for each ton per day of liquefied natural gas less than the Guaranteed Performance for LNG Throughput Capacity. Production is measured by tons of LNG to tank inlet; and,
- (iii) \$500,000.00 USD if the LNG to tank inlet fails to achieve the LNG Specifications.

25.4 The Liquidated Damages per Plant for failure to achieve the Guaranteed Performances shall not exceed five percent (5%) of the Contract Price for each Plant.

25.5 Payment of any Liquidated Damages described herein shall occur within fourteen (14) Days following the date Buyer submits to Seller an invoice for any amounts due for Liquidated Damages.

25.6 Buyer and Seller agree that the Liquidated Damages represent an accurate, reasonable and conservative estimate of the actual level of damages Buyer is likely to suffer in the event of such a breach. However, in the event the Liquidated Damages provided in Clause 25.2(ii)(a) or the agreement between the parties set out in clauses 25.2(ii)(a)&(b) are found, in whole or in part, for any reason to be void, invalid or otherwise inoperative Buyer shall in any event have the right to recover against Seller for Buyer's direct damages in accordance with the Agreement incurred as a result of Seller's failure or inability to achieve the Guaranteed Performance; provided that such damages per Plant shall not exceed five per cent (5%) of the Contract Price for the Plant in the circumstance contemplated by Clause 25.2(ii)(a).

26. TAKING OVER

26.1 As soon as the following conditions are fulfilled in respect of a Plant, Buyer shall issue to Seller the Taking Over Certificate for such Plant:

- (i) Seller has complied with all its obligations under the Agreement, and in particular, the Plant has been delivered in accordance with the terms of this Agreement;
- (ii) the Plant has been Commissioned (other than with respect to the items on the Punch List) and the Services have been performed in accordance with the Service Agreement; and,

AS
w

- (iii) the Acceptance Tests have been passed and Seller has issued all the Test Certificates, and the Plant has achieved all of the Guaranteed Performances, or the Liquidated Damages for failure to achieve the Guaranteed Performances are less than or equal to five percent (5%) of the Contract Price for each Plant, as per Clause 25.

The granting of the Taking Over Certificate shall not restrict Seller's obligations under the Agreement.

26.2 Conditions applicable after Taking Over

The provisions of the Agreement, to the extent applicable, shall apply:

- (i) to the works and/or supplies to solve the Punch List items;
- (ii) to the works and/or supplies to remedy the Defects; and,
- (iii) to the works and/or supplies to be performed in relation with achieving the Guaranteed Performances.

Seller shall make its commercially reasonable efforts in order not to obstruct or disturb the normal operation and/or maintenance of the Plant.

26.3 Right of Access

For the sole purpose of (and to the extent necessary for) performing the works and/or supplies in relation to solving the Punch List items, the remedying of Defect and/or achieving the Guaranteed Performances, Seller may request Buyer (who shall not unreasonably withhold its consent) to have the right of access to all parts of the Plant. Such access shall only be granted during normal working hours and will be limited to the duly authorized representatives of Seller.

27. INSPECTION AND FACTORY TESTS

The quality control exercised by Seller in its manufacture of the Plants and the Parts shall be in accordance with Seller's normal quality control policies, procedures and practices. Seller shall attempt to accommodate Buyer's requests to witness Seller's factory tests of Plants, if such witnessing can be arranged without delaying the work. Such access shall be limited to areas directly concerned with Plants ordered by Buyer and shall not include restricted areas where development work or work of a proprietary nature is being conducted.

28. SUSPENSION AND TERMINATION FOR SELLER DEFAULT

AB
h

28.1 Suspension

28.1.1 Order to suspend execution of the Agreement

Buyer may at any time, upon thirty (30) days' prior written notice, instruct Seller to suspend the execution of the Agreement or any portion thereof for such time and in such manner as Buyer may reasonably consider necessary and during such suspensions Seller shall properly protect and secure the Plants against any deterioration, loss or damage, as considered necessary or required by Buyer.

Any Cost reasonably incurred and properly documented by Seller (including, but not limited to, demobilization, remobilization, storage, preservation, inspection, related labor and any other costs due to such suspension) in giving effect to Buyer's instructions under this Clause 28.1.1, shall be borne and paid by Buyer, or, unless such suspension is:

- (i) necessary by reason of material default on the part of Seller;
- (ii) due to reason of Force Majeure.

If Buyer is in breach of its payment obligations and has not remedied same within a thirty (30) Day written notice, Seller may suspend performance and delivery. Any Cost reasonably incurred and documented by Seller in accordance with such suspension (including storage, demobilization and re-mobilization costs) shall be payable by Buyer upon submission of Seller's invoices. Performance of Seller's obligations shall be extended for a period equaling the period of Buyer's non fulfillment of any portion of the payment terms, whether or not Seller suspends performance and such additional time as may be reasonably necessary in the circumstances.

28.1.2 Resumption of Works

At any time after a suspension under Clause 28.1.1, Buyer may give written notice to Seller to proceed with the delivery of the Plants and/or with the execution of all or part of the Agreement suspended under this Clause 28. Seller will be entitled to a Change Order to equitably adjust Contract Price and Delivery Date prior to resuming performance.

28.1.3 Prolonged Suspension

If the execution of the Agreement or any portion thereof is suspended pursuant to Clause 28.1 and if notice to resume execution is not given by Buyer within one hundred and thirty five (135) Days, then, Seller may serve notice in writing to Buyer requiring it to proceed with the Agreement or the portion in regard to which progress is suspended.

If such permission is not granted within twenty-eight (28) Days following receipt of such notice, Seller may, by a further prior written notice to Buyer, elect to treat the suspension:

AM
W

- (i) either, where it affects a portion of the Agreement, as an omission of such portion of the Agreement which shall be settled pursuant to Clause 20; or,
- (ii) where the suspension affects the whole of the Agreement, as termination for convenience of Buyer in accordance with Clause 29.1.

This Clause 28.3 shall not apply if the suspension was:

- (a) necessary by reason of some material default on the part of Seller; or,
- (b) due to reason of Force Majeure.

28.2 Seller's Default

28.2.1 Event of Default and notification

If Seller:

- (i) fails to reach the Delivery Date on or before the Delay Limit Date for a cause attributable to Seller's fault;
- (ii) commits a breach of any material obligation under the Agreement which does not otherwise have an express contractual remedy;
- (iii) abandons or repudiates the Agreement; or,
- (iv) becomes bankrupt or insolvent, has a receiving order made against it or compound with its creditors, or carries on business under a receiver, administrator, trustee or manager for the benefit of its creditors (or any of them) or goes into liquidation (other than a solvent reorganization which shall not be inconsistent with what follows hereafter);

(any of such circumstances being hereinafter referred to as an "Event of Default");

then Buyer may give the thirty (30) Days' notice to Seller of its intention to terminate the Agreement in accordance with the provisions of Clause 28.2, during which time period Seller shall cure such default. Upon the expiry of such notice and unless during such thirty (30) Days period Seller has either remedied the Event of Default or started and diligently pursues to remedy, then, without prejudice to any other remedy under the Agreement, Buyer may forthwith terminate the Agreement; provided that the said notice shall have no effect if the default shall have been remedied or resolved within such period.

The thirty (30) Days' notice by Buyer shall not be required in case of event listed under Clause 28.2(iv) here above.

28.2.2 Consequences of termination and Buyer's rights

Upon such termination, Buyer will have the right to:

- (i) the portions of the Plants for which Seller has received payment in full and which have been delivered, the Plants will then automatically become the property of Buyer, unless Buyer decides otherwise;
- (ii) suspend any further payment to Seller, except payments for the Scope of Supply performed in accordance with the Agreement; and,
- (iii) recover against Seller for Buyer's direct damages in accordance with the Agreement incurred as a result of Seller's Event of Default, subject to Seller's limitation of liability under Clause 19.2.

29. TERMINATION FOR BUYER'S CONVENIENCE OR BUYER'S DEFAULT

29.1 Notice of termination for Buyer's convenience

Buyer may at any time terminate the Agreement for any reason by giving Seller thirty (30) Days' written notice of termination, but subject to payment of the Termination Fees in accordance with Clause 29.3. The Agreement shall terminate with effect from the date indicated in such notice.

29.2 Notice of termination Due to Buyer's Default

In the event of Buyer:

- (i) failing to pay the undisputed invoiced amount, after Seller has suspended the Agreement in accordance with this Agreement, provided that Seller shall have given not less than thirty (30) Days' notice in writing and payment shall not have been made within this period;
- (ii) having suspended the Agreement for a period of more than one hundred and thirty five (135) Days, allowing Seller to treat the case as termination for Buyer's convenience of this Agreement by Buyer;
- (iii) becoming bankrupt or insolvent, having a receiving order made against it or carrying on business under a receiver, administrator, trustee or manager for the benefit of its creditors or going into liquidation (other than a solvent reorganization) or any other similar procedure under the applicable law; or
- (iv) committing a breach of a material obligation under the Agreement which does not otherwise have an express contractual remedy;

AM
W

(any of such circumstances being hereinafter referred to as an "Buyer's Default")

Seller shall be entitled without prejudice to any rights or remedies under the Agreement to terminate the Agreement by thirty (30) Days' written notice to Buyer (provided, that the said notice shall have no effect if the default shall have been remedied or resolved within such period). However, the thirty (30) Days' written notice by Seller to Buyer shall not be required in case of event listed under Clause 29.2(iii) above.

29.3 Payment on termination for Buyer's convenience or due to Buyer's Default

In the event of termination under Clause 29.1 or Clause 29.2, Buyer shall pay to Seller a fee (the "Termination Fee"), equal to:

- (i) the termination charge as per the termination schedule below; minus,
- (ii) any payments made by Buyer in respect of the Contract Price in accordance with the Payment Schedule up to the effective date of termination, but to the extent this calculation yields a negative amount, same negative amount to be refunded by Seller.

Termination period (counted as from the Effective Date)	Termination charge (as % of Contract Price for each Plant)
During 1 st month	20%
During 2 nd month	25%
During 3 rd month	30%
During 4 th month	35%
During 5 th month	50%
During 6 th month	55%
During 7 th month	65%
During 8 th month	70%
During 9 th month	85%
During 10 th – 13 th month	100%

The Termination Fee shall be paid within thirty (30) days from Seller's invoice.

The Termination Fee shall be deemed to be in full satisfaction of all of Seller's damages and Costs arising from termination of the Agreement by Buyer for Buyer's convenience or by Seller due to Buyer's Default. Buyer and Seller agree that the Termination Fee represents an accurate, reasonable and conservative estimate of the actual level of damages Seller is likely to suffer in the event of such Termination.

AM
W

29.4 Transfer of rights and title

Seller shall transfer or assign to Buyer, title in the part of the Plants for which payment has been received in full as of the date of termination.

30. GENERAL CLAUSES

30.1 Except as provided herein, including Clause 19, the provisions of this Agreement are for the benefit of the Parties hereto and not for any other third party.

30.2 This Agreement represents the entire agreement between the Parties and no modification, amendment, rescission, waiver or other change shall be binding on either Party unless agreed to in writing by the Parties' authorized representatives. Each Party agrees that it has not relied on, or been induced by, any representations of the other Party not contained in this Agreement.

30.3 The invalidity in whole or in part of any part of this Agreement shall not affect the validity of the remainder of the Agreement.

30.4 This Agreement may be executed in multiple counterparts that together shall constitute one (1) agreement.

30.5 In case Plants are to be exported outside the EU and an authorization is required for the export in accordance with any applicable laws, Buyer shall provide Seller, upon Seller's written notice, with any and all information requested by Seller. In case of Buyer's delay in providing the abovementioned information, Seller shall not have any liability or be considered in breach or default of any its obligations under the Contract.

31. INTENTIONALLY OMITTED

32. OPTION FOR TWO (2) ADDITIONAL SCMR LNG PLANTS

32.1 Seller further grants an option to Buyer to purchase up to two (2) additional 0.25 MTPA SCMR LNG plants ("Plant 3" and "Plant 4") from Seller for a purchase price of \$47,500,000.00 USD for each, with the option to be executed by Buyer (or an Affiliate of Buyer) prior to March 31, 2015, on the same terms and conditions as this Agreement. If Buyer does not exercise this option (by issuing a binding purchase order for Plant 3 and/or Plant 4 to Seller on the same terms as this Agreement) by March 31, 2015, then this option will automatically expire and Seller will have no obligation related to a contract for Plant 3 and/or Plant 4 (unless the Parties subsequently agree in a separate writing).

AS
W

32.2 If and when Buyer executes its option for Plant 3 and/or Plant 4, their respective delivery dates shall be mutually agreed, but in no event to be more than thirteen (13) months after the date(s) on which Buyer issues a binding purchase order(s), unless otherwise expressly extended by Buyer.

33. FORCE MAJEURE

33.1 Neither Party shall be liable or be considered to be in breach or default of its obligations under the Agreement to the extent that performance of such obligations is delayed or prevented, directly or indirectly, due to a Force Majeure Event; provided that Buyer's payment obligation shall not be excused by this Clause unless Buyer's ability to pay is directly affected by a Force Majeure Event.

A "Force Majeure Event" means the occurrence of any (or any combination) of the following events or circumstances, which, or any of the consequences of which:

- (a) are beyond the reasonable control and without fault or negligence of the affected Party;
- (b) could not have been prevented in whole or in part by the exercise of reasonable care and skill by the affected Party; and,
- (c) materially impair or prevent the performance of obligations under this Agreement by the affected Party.

Provided they meet the requirements outlined above, the following shall be considered Force Majeure Events: causes beyond its reasonable control, including, but not limited to, (acts of God, acts (or omissions) of governmental authorities, fires, severe weather conditions, earthquakes, strikes or other labor disturbances, floods, risk of kidnapping, war (declared or undeclared), armed conflict, acts or threats of terrorism, epidemics, civil unrest and riots, and inability on account of causes beyond the reasonable control of Seller to obtain necessary materials, necessary components or services to the extent caused by a Force Majeure Event.

For the avoidance of doubt, a Force Majeure Event does not include (except and to the extent that they result directly from a Force Majeure Event), among others:

- (aa) technical failures, normal wear and tear in machinery, or breakdown in equipment;
- (bb) strike or lock-out of Seller's personnel;
- (ff) meteorological conditions.

ABO
W

33.2 Effect of Force Majeure

In the occurrence of the Force Majeure Event, then:

- (i) the affected Party shall not be liable for any failure or delay in performing its obligations which are affected by the Force Majeure Event under or pursuant to this Agreement during the existence of a Force Majeure Event provided that Buyer's payment obligation shall not be excused by this Clause unless Buyer's ability to pay is directly affected by a Force Majeure Event;
- (ii) any performance deadline, the Delivery Date that the affected Party is obligated to meet under this Agreement shall be reasonably extended for a period equal to the time lost by reason of delay, plus such additional time as may be reasonably necessary to overcome the effect of such delay, provided, however, that, no relief, including the extension of performance deadlines, shall be granted to the affected Party pursuant to this Clause to the extent that such failure or delay would have nevertheless been experienced by the affected Party had the Force Majeure Event not occurred or if the act or omission of the Party claiming relief caused such delay; and
- (iii) each Party will bear its Cost caused by the circumstances of Force Majeure.

33.3 Notice of occurrence

If either Party considers that any events of Force Majeure have occurred which may affect performance of its obligations, it shall notify the other Party as soon as reasonably possible giving written particulars of the relevant event and its effect upon its performance under the Agreement and, where known, the expected duration of the event and its effects on that Party's ability to perform.

The effected Party shall deliver an appraisal report of the effects of the Force Majeure event (the "Force Majeure Report"). The Force Majeure Report shall:

- (i) specify the Force Majeure event;
- (ii) describe the damage to and/or other effects on the Plants resulting from the Force Majeure event, if applicable,; and,
- (iii) provide a good faith estimate (in each case to the extent applicable in the circumstances) of:
 - (a) the time it will take to remedy such condition;

ARB
w

- (b) the effect which the relevant Force Majeure Event is likely to have upon any other contract relating to the Agreement;
- (c) give a recommendation as to whether or not:
 - (aa) the remedying of the condition should be commenced; or,
 - (bb) completion or continued manufacturing of the Plants, if applicable;with, in each case, the reasons for such recommendation; and,
- (d) include relevant supporting documentation.

In addition to the Force Majeure Report, Buyer may request, and Seller shall promptly provide, such related information pertaining to the Force Majeure Report as may be reasonable.

Reasonably promptly after the Force Majeure Event has ended, the Party claiming Force Majeure shall give written notice to the other Party of the precise date of the end of the Force Majeure Event and the extent, with justification, to which it has actually been affected in the performance of its obligations.

33.4 Obligation to continue

Upon the occurrence of any circumstances of Force Majeure, Seller shall use commercially reasonable efforts to continue to perform its obligations under the Agreement and to minimize the adverse effects of such Force Majeure Event. Seller shall notify Buyer of the steps it proposes to take including any reasonable alternative means to continue the performance of its obligations under the Agreement.

33.5 Termination in Consequence of Force Majeure

If circumstances or consequences of Force Majeure have occurred and shall continue for a period of one hundred and thirty-five (135) Days after date of occurrence and the Parties have not agreed upon a revised basis for continuing the work at the end of the delay, subject to Clause 24, Changes, then, notwithstanding that Seller may by reason thereof have been granted an extension of the Delivery Date, either Party shall be entitled to serve upon the other Party an additional twenty-eight (28) Days' notice to terminate the Agreement with respect to the Plant that has been affected by the Force Majeure Event. If, at the expiry of that period, the Force Majeure Event is still in effect, the Agreement shall terminate. In the event of a termination of this Agreement due to Force Majeure, the following provisions shall apply:

AB
W

- (i) neither Party shall have any liability to the other in respect of termination of the Agreement due to a Force Majeure Event, but rights and liabilities which have accrued prior to termination shall subsist;
- (ii) upon such termination, Buyer shall pay to Seller:
 - (a) the amounts payable for the work carried out at the date of termination; and,
 - (b) the cost of machinery and materials ordered for the Plants which have been delivered to Seller, or of which Seller is liable to accept delivery;

in each case to the extent the work or services carried out, and the machinery and materials delivered, are in a form of value to and usable for Buyer.

Without prejudice to the provisions in the Agreement governing title to the Plants, such work, machinery and materials shall become, the property of Buyer when delivered, and be at the risk of Buyer when Seller shall deliver same in accordance with the original delivery terms.

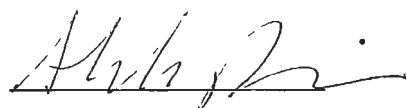
* * *

AM
W

In WITNESS WHEREOF, the Parties have caused this Agreement to be executed on the Effective Date.

For the Parties:

For Seller:



Name: ALESSANDRO BRESCIANI

For Buyer:



Name: Eddy Van Den Broeke

GE Oil & Gas



Appendix (A) - Scope of Supply



GE imagination at work

422519.1

APD

W

GE Oil & Gas



Definitions and Interpretation

Defined terms shall, unless expressly stated otherwise herein, have the meaning given to them in Clause 1.1 of the Agreement.

This Appendix (A) has the following Annexes, each of which shall be an integral part of this Appendix (A):

- (i) Annex (A) – Basis of Design
- (ii) Annex (B) – Process Flow Diagram
- (iii) Annex (C) – Sample Plant layout

1 Process Design Basis

1.1 Basis of Design

The 'Basis of Design' (the "BOD") for the Plants was developed by Seller from the 'request for proposal' documents provided by Buyer, attached as Annex (A), and is considered the master BOD for the scope of work below. A 'Process Flow Diagram' (the "PFD") was developed from that BOD for the Design Case only, and is attached as Annex (B).

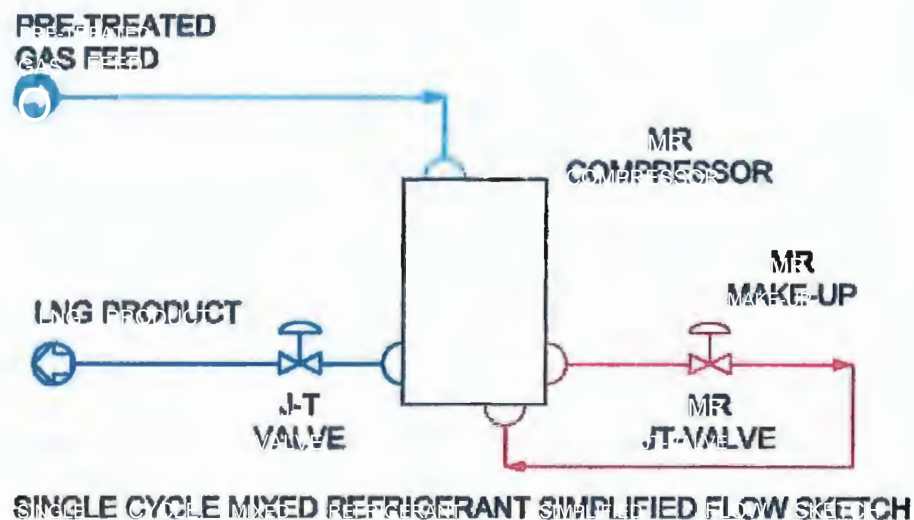
The Plants are designed to each produce approximately 0.25 MTPA of LNG. Any off design conditions may affect the output of the Plants.

2 Process Description

The Plants will use the 'Single Cycle Mixed Refrigerant Process' (the "SCMR") cycle, which is a 'closed' loop refrigeration system that provides refrigeration to liquefy the feed gas stream to LNG. A mixed refrigerant (the "MR") composition is compressed, chilled and partially condensed to a vapor liquid stream. The MR then undergoes a series of pressure reduction and liquid-vapor separations as it flows through the 'Braze Aluminum Heat Exchanger' (the "BAHX") to cool and condense the natural gas to a liquid product. This MR mixture is optimized by using a specific recipe of components such as nitrogen, methane, ethylene, ethane, iso-butane and n-butane and is customized for each Plant design. The MR composition can be modified slightly during operation to optimize the Plant refrigeration and efficiency. With the exception of the methane, which is normally supplied from the process, all other MR components shall be purchased by Buyer (and are outside Seller's Scope of Supply). Storage and transfer systems for these components must also be supplied to provide makeup for the gas losses during normal plant operation.

AM

GE Oil & Gas



AM

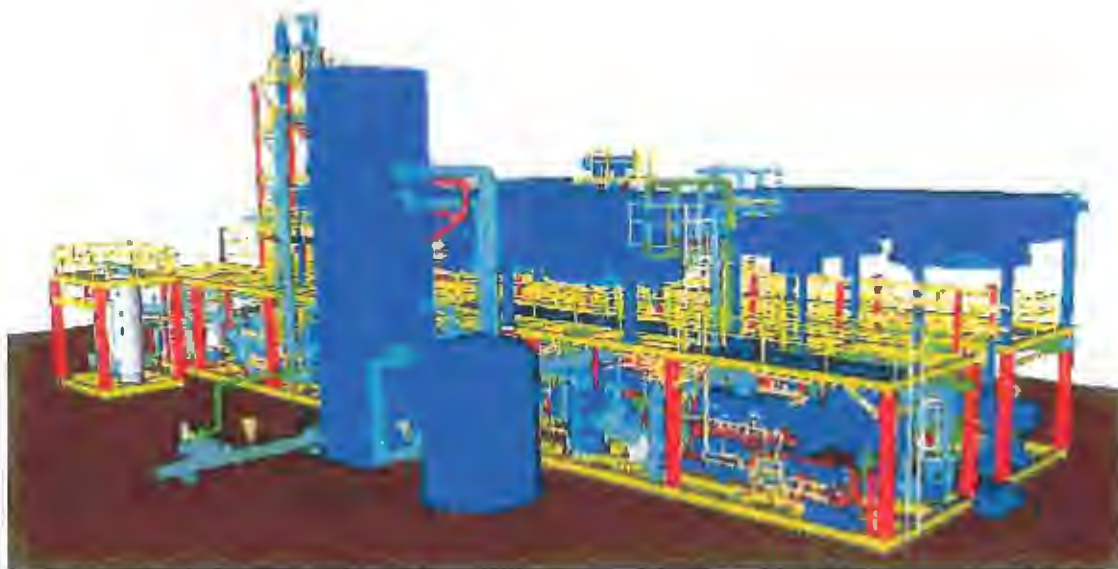
tw

GE Oil & Gas



3 Scope of Supply

Seller's Scope of Supply for the Plants includes process design, engineering design, procurement and module fabrication for the 'Natural Gas Liquefier Units'.



Note: the above drawing is provided for illustrative purposes only and is non-binding, as the Plants will have two (2) cold boxes and two (2) compressors.

3.1 Detailed Scope of Supply/Equipment List

3.1.1 Preliminary module and Equipment List

Module No.	Description	Module Size (L x W x H) (estim, mm)	Shipping Weight (estim, kg)	OP Module Weight (estim, kg)
C-0201	Amine Contactor		35,800	58,600
C-0202	Amine Still Column		14,152	36,151
D-0301A/B	MS Dryer A/B		29,700	50,100
E-0401A	Cold Box A		23,043	33,611
E-0401B	Cold Box B		23,043	33,611
E-0501A/B	MRC A/B 1st Stage Discharge Cooler		25,129	28,622
E-0502A	MRC A 2nd Stage Discharge Cooler		12,247	13,200
E-0502B	MRC B 2nd Stage		12,247	13,200

AM
W

GE Oil & Gas



	Discharge Cooler			
E-0600A	LNG Loadout BOG Ambient Heater A			13,607
E-0600B	LNG Loadout BOG Ambient Heater B			13,607
E-0610A	LNG Tank BOG Ambient Heater A			13,607
E-0610B	LNG Tank BOG Ambient Heater B			13,607
E-1001	Cooling Medium Cooler		19,913	21,727
E-1221A	N2 Vaporizer A			9,071
E-1221B	N2 Vaporizer B			9,071
E-0204	Amine Condenser		19,958	20,457
E-0206	Amine Cooler		62,619	64,094
E-0302	MS Regen Gas Cooler		21,138	21,501
E-0503	MR Cooler -1, 2, 3		26,717	29,756
FS-1101	Flare Stack		29,192	26,192
M-0001	Electrical Room Module-1	18700x4206x4430	54,431	54,431
M-0100	Amine Charge Pump Module	15240x3048x3962	19,050	23,586
M-0200	Feed Gas Separation Module	15240x3962x3962	36,287	43,091
M-1000	Cooling Medium Module	15240x3962x3962	29,687	36,287
M-1100	Flare Scrubber Module	9144x3962x3962	25,215	27,215
M-1200	I/A And N2 Compressor Module	12443x2438x3370	45,359	45,359
M-1201	I/A And N2 Receiver Module	12192x3962x3962	22,679	22,679
M-1202	LN2 Vaporizer Module	6096x3048x3962		22,679
M-1400	Waste Condensate Module	13716x3962x3962	19,878	22,679
M-0002	Electrical Room Module-2	18700x4206x4430	54,431	54,431
M-2000	Pipe Rack parts	Pipes will be delivered assembled; only the rack will be delivered as loose parts	26,215	27,215
M-2001	Pipe Rack parts	Pipes will be delivered assembled; only the rack will be delivered as loose parts	26,215	27,215
M-2002	Pipe Rack parts	Pipes will be delivered	26,215	27,215

GE Oil & Gas



		assembled; only the rack will be delivered as loose parts		
M-2003	Pipe Rack parts	Pipes will be delivered assembled; only the rack will be delivered as loose parts	26,215	27,215
M-2004	Pipe Rack parts	Pipes will be delivered assembled; only the rack will be delivered as loose parts	26,215	27,215
M-2005	Pipe Rack parts	Pipes will be delivered assembled; only the rack will be delivered as loose parts	26,215	27,215
M-2006	Pipe Rack parts	Pipes will be delivered assembled; only the rack will be delivered as loose parts	26,215	27,215
M-2007	Pipe Rack parts	Pipes will be delivered assembled; only the rack will be delivered as loose parts	26,215	27,215
M-0201	Amine Reboiler Module	15240x3962x3962	37,901	43,901
M-0202	Amine 3-Phase/ Filters Module	15240x3048x3962	28,349	43,901
M-0203	Amine Make-up Module	4877x3048x3962	9,071	18,143
M-0204	Amine Air Cooler Pipe Support Module	TBD	TBD	TBD
M-0300	MS Regen Module	15240x3962x3962	29,483	43,901
M-0302	Regen Air Cooler Pipe Support Module	TBD	TBD	TBD
M-0400	Cold Box valve group Module	15240x3962x3962	24,947	27,215
M-0401A	Cold Box A valve group Module	TBD		
M-0401B	Cold Box B valve group	TBD		

Am
W

GE Oil & Gas



	Module			
M-0500	MRC 1st Stage Suction Scrubber Module	10973x3962x3962	24,947	27,215
M-0501	MRC A Surge Suction Scrubber Module	9144x3962x3962	23,586	36,287
M-0502	MRC B Surge Suction Scrubber Module	9144x3962x3962	23,586	36,287
M-0503	MRC A Compressor Module	11570x3962x3962	39,247	56,450
M-0503-1,2,3	MR Air Cooler Pipe Support Module	TBD	TBD	TBD
M-0504	MRC B Compressor Module	11570x3962x3962	39,247	56,450
M-0505	MR Separator Module	15240x3962x3962	23,586	36,287
M-0506	MR Surge & Charge Module	15240x3962x3962	25,215	27,215
M-0507	MR Cooler Valve Module A	3658x1524x3048	15,000	15,875
M-0508	MR Cooler Valve Module B	3658x1524x3048	15,000	15,875
M-0511	MR Transfer Compressor Module	TBD	TBD	TBD
M-0600	BOG Compressor Module	15240x3962x3962	39,247	45,359
M-0601	Rundown Module	12192x3962x3962	23,230	27,215
M-0900	Heating Medium Module	15227x3658x11288	36,287	45,359
V-1221	LN2 Tank			22,679
V-0511-1	MR Surge Tank-1	12192X2134X2438	32,658	45,359
V-0511-2	MR Surge Tank -2	12192X2134X2438	32,658	45,359
XFMR-1	Transformer-A		5,663	5,663
XFMR-2	Transformer-B		5,663	5,663

All major equipment, piping, valves, electrical and instrument components shall be prefabricated and installed on skidded modules. These modules shall be insulated (where required by process and/or ambient conditions), painted and tested in the shop to reduce the Site installation work, ensure quality, and shorten the project delivery cycle. Seller's Scope of Supply ends at skid limit.

3.1.2 Optional Items

1. Two year Parts – to be determined after the 'Bill of Material' is finalized

3.1.3 Excluded Items

The following items are excluded from Seller's Scope of Supply:

1. Freight to Site (delivery terms for the Plants are: FCA – Port of Export, as per INCOTERMS 2010)
2. Power supply to the Plants – Seller and Buyer may develop a separate or umbrella contract that includes power generation, but it is excluded from this Agreement.
3. Emergency power
4. Utility metering outside battery limit (e.g. water, electrical grid, pipeline, etc.)
5. Tie-ins to pipeline and utilities
6. Control room and/or Site buildings
7. Field insulation of flanges at skid limits

AM
W

GE Oil & Gas



8. Field installation of Buyer supplied interconnecting cable trays
9. Waste water drainage
10. Site preparation, civil and construction
11. Geotechnical or civil study and report
12. Module and equipment installation (although supervision of same shall be the subject of the separate 'Services Agreement' between Buyer and another member of the GE Group)
13. Piping from the cold box to the LNG storage system
14. Grounding system – Seller will clearly identify the tie-ins as per section 3.8
15. Firewater or other firefighting systems
16. Plant lighting
17. Security systems, CCTV, fencing, gates, perimeter alarms, locks, etc.
18. Truck scale – Seller will ensure that the Plant operation and control integrates with scale and load-out system
19. Initial refrigerant charge and MR makeup, liquid N2, amine first fill and washout, glycol, hot oil first fills, perlite, lube oil and other first fills
20. MR, condensate and waste storage tanks
21. Winterization
22. LNG storage
23. Pipe rack assembly and associated welding (although supervision of same shall be the subject of the separate 'Services Agreement' between Buyer and another member of the GE Group)
24. Other interconnecting piping to non-Seller supplied equipment
25. All other equipment not specifically identified as included in section 1 above

3.2 Major Equipment Description

3.2.1 Feed Gas Separation and Metering System

The feed gas enters the boundary of the Plant with pressure and temperature as described in the BOD. The feed gas entering the Plant could carry liquid and particles, which will require pre-separation and filtration.

The inlet tie-in point of the Plant will have a shutdown valve, which will isolate the supply of feed gas to the entire Plant in case of shut down. The gas will then pass through an inlet pressure control valve that will regulate a constant Plant feed gas pressure. The gas will then flow into a 'Feed Gas Filter Separator' to separate any entrained liquid and particles. A non-custody transfer, pressure/temperature compensated flow transmitter will follow to measure and record Plant inlet gas flow.

In order to maintain constant temperature to the amine contactor the gas will then flow through a gas/gas cross exchanger and feed gas heater before going to the amine contactor tower.

3.2.2 Feed Gas Compression – not included for Plants 1 and 2

After inlet metering the gas will flow to an inlet compressor. The compressor module will include a motor driven 'Reciprocating Compressor', which will boost the inlet gas pressure as required to process. The package will include an oil day tank, oil separator vessel, and valves for isolation and maintenance.

ABN
W

GE Oil & Gas



3.2.3 Acid Gas Treating System (Amine)

The feed gas with maximum CO₂ content (consistent with the BOD) is first sent to the bottom of the 'Amine Contactor', a bubble tray type distillation column, where the gas flows upward counter-currently contacting with amine solution, a formulated solution, flowing downward in the 'Amine Contactor'. The gas coming out from the top of the 'Amine Contactor' will have the CO₂ content reduced to less than 50 ppm (v) and H₂S content reduced to less than 4 ppm (v). This stream is saturated with water and has been heated up several degrees due to the exothermic reaction of the absorption process in the 'Amine Contactor'. The process gas will then flow back to the gas/gas exchanger before going to a secondary MS 'Feed Gas Water Knockout Drum', and then feeds to the molecular sieve dryers.

A CO₂ online analyzer is installed at the 'Amine Contactor' top outlet stream to monitor the CO₂ content level.

The amine circulation rate will be variable for different Plant throughputs and CO₂ content in the feed gas. Two (2) x 100% 'Amine Booster Pumps' and two (2) x 100% 'Amine Charge Pumps' will be installed. Variable speed drives will be provided to vary amine flow for Plant throughput requirements. The added reliability and overall Plant availability will be safeguarded with this approach to on-line sparing, while simultaneously increasing the operability of the Plant with variable speed drives.

The rich amine leaves the bottom of the 'Amine Contactor' through a level control valve. It will drop in pressure across this valve and enter the 'Amine Flash Separator' to flash the entrained gas. The flash gas from the 'Amine Flash Separator' will be sent to fuel gas system. The rich amine will enter the first of two amine particulate filters ('Amine Filter #1') to remove any impurities that could foul the subsequent portions of the process. After passing through the first 'Amine Particulate Filter' the rich amine solution flows into an activated carbon filter ('Amine Carbon Filter') to remove any heavy hydrocarbons that may have become entrained in the rich amine stream. The rich amine stream then flows into a second and final stage of particulate filtration ('Amine Filter #2') which guards amine regeneration system against any carbon fine breakthrough that may have come from the carbon filter. Contacting time with the amine solution should be 20 minutes with superficial velocity in 2 to 10 gpm range. It is highly recommended to have the 'Amine Mechanical Filter #2' located downstream of the 'Carbon Filter', which Seller includes as standard equipment, to remove carbon fines, which may occur due to various reasons.

After filtering, the rich amine enters the rich side of the 'Rich/Low Amine Heat Exchanger' where it will be heated before entering the 'Amine Still Column' or called an amine regenerator, which is a bubble tray type distillation column.

As the rich amine falls through the column, the CO₂ will be stripped and flow out of the top of the column a small volume of amine solution will be entrained in the saturated gas which will have to be made up daily. The gas exiting the top of the column is cooled by the 'Amine Condenser' and flows to an 'Amine Reflux Drum'. The liquid collected will be pumped by the 'Amine Reflux Pump' back to the top of the 'Amine Still Column' as reflux. The gas that is not condensed will be primarily CO₂ and will be safely vented at the top of the column. The amine that has been converted from rich to lean is collected at the bottom of the 'Amine Still Column' and flows to the 'Amine Re-boiler' for heating. The 'Amine Re-boiler' is heated by heating medium (hot oil) supplied from the 'Heating Medium Heater', which is a direct fired hot oil heater. Any vapor that is separated in the re-boiler will be returned to the 'Amine Still Column'. The hot lean amine will then flow to the lean side of the 'Rich/Low Amine Heat Exchanger'.

AB
h

GE Oil & Gas



The lean amine will be pumped up to the required operating pressure of the 'Amine Contactor', and returned to the 'Amine Contactor' with case designed circulation rate to complete the circulation loop.

Additionally, an anti-foam injection system will be included to help minimizing operating problems.

A de-mineralized water storage system, as well as an amine storage and make up system will be designed and included for connection to customer supplied water connection.

3.2.4 Hot Oil Medium System

A 'Heating Medium Heater' will heat a heating medium (hot oil) for the 'Amine Re-boiler', and 'MS Regen Gas Heater'. The 'Heating Medium Heater' will be a skid mounted unit and will be located at least 1.5 meter (50 ft.) from the Plant location as per NFPA 59A siting requirements.

It is proposed to use Therminol-59, a synthetic aromatic heat transfer fluid by Therminol, as heating medium. Therminol-59 has a liquid operating temperature range of -45°C to 315°C (-50°F to 600°F). The 'Heating Medium Pumps' will circulate the heat transfer fluid to the users. Buyer has supplied Seller the relevant data sheet for an equivalent oil.

3.2.5 Molecular Sieve Dehydration and Regeneration System

UOP's 4A-LNG, or equal, will be used for the molecular sieve ("MS") gas dehydration as it can reduce the water content to less than 1.0 ppm required by the gas liquefaction.

The gas is first routed to the 'MS Feed Gas Water Knockout Drum' to knock the condensed water out. This water is commingled with the rich amine solution from the 'Amine Contactor' and sent to the 'Amine Flash Separator'. The gas from the 'MS Feed Gas Water Knockout Drum' travels to the top of one of the 'MS Dryers' to go through a water absorption process to remove the water from the feed gas. The outlet gas from the bottom of the dryer will have water content of less than 1.0 ppm.

The dried gas will further flow through a 'MS Dust Filter' to remove any molecular sieve dusts before going a 'Mercury Guard Bed' to capture any trace mercury.

A water moisture online analyzer is installed at the 'MS Dryer' outlet to monitor the water content level.

The two MS dryers are operated in twelve (12) hours period, during which one bed is under 12-hours absorbing, one under regeneration with five (5) hours heating, three (3) hours cooling and four (4) hours standby when the plant is running in the normal design capacity. The system will be fully automated and cycle times may be varied to maximize Plant efficiency as compared to Plant throughput.

The regeneration gas taken off from the dried gas stream is first heated in the 'MS Regeneration Gas Pre-Heater' by the heating medium (hot oil) supplied from the 'Heating Medium Heater'. It is then taken up to final regeneration temperature with the 'MS Regen Gas Electrical Heater'. The hot regeneration gas is routed to the molecular sieve bed, which is ready for regeneration, to remove the absorbed water from the sieves by heating. The regeneration gas coming from the MS bed under heating regenerating is sent to the 'MS Regeneration Gas Cooler' to condense the water. This water is then knocked out from the 'MS Regeneration Gas Separator'.

A handwritten signature, possibly 'AM' or 'W', in the bottom right corner.

GE Oil & Gas



The regeneration gas is recycled back to a 'MS Regeneration Gas Recycle Compressor' and will be reintroduced back to the process at the top inlet stream to the 'Amine Contactor'.

The knockout water from the 'MS Regeneration Gas Separator' is routed back to the 'Amine Flash Separator' for reuse.

After finishing the heating regeneration, the 'MS Regeneration Gas Heater' will be turned off to conduct cooling process for the heated molecular bed.

With the acid gas and water removed from the feed gas, the treated gas with CO₂ content of less than 50 ppm, H₂S content of less than 4 ppm, and water content of less than 1ppm will then flow to the mercury guard bed.

3.2.6 Dust Filtration and Mercury Removal System

The 'Mercury Guard Bed' is provided to ensure the mercury content in the gas stream will be less than 10nanogram/Nm³. This is provided to protect the brazed aluminum heat exchanger(s). A 'Dust Filter #2' is installed at the 'Mercury Guard Bed' to block any dusts from entering the downstream gas liquefaction system. The process gas is now ready for liquefaction.

3.2.7 Gas Liquefaction and HHC Removal

In order to facilitate the most efficient and flexible capacity turn down possible the Plant will be configured with a two (2) x fifty percent (50%) design configuration for the liquefaction heat exchangers, which will be provided in individual cold boxes.

The dry gas coming from the 'Mercury Guard Dust Filter' takes its first pass 'A' through the 'Main HTX' and cools to condense heavy hydrocarbons including C₅+ and aromatics, if any, which will have potential freezing risk in the cryogenic section of the liquefier. The two-phase stream then enters the 'Cold Gas Separator' to knock the condensate out.

The vapor stream from the 'Cold Gas Separator' feeds to pass 'B' in the 'Main HTX' where it is liquefied and exits the cold box to a J/T valve that lets down the pressure and flows to the LNG storage tanks.

The condensed liquid stream from the 'Cold Gas Separator', will feed to the 'Cold Liquid Vaporizer' and then be used for fuel gas.

The light hydrocarbons exit the top of the column and flow to passes 'B' and 'C' of the 'Main HTX'. The vapor in each pass is liquefied and exits the cold box to J/T valves that let down the pressure. This liquid LNG will then flow to the storage tank(s).

The boil-off-gas ("BOG") from the LNG storage tank(s) and returning gas from truck loading is warmed by the 'BOG Heater' and then is boosted by the 'BOG Compressor'. This gas is used for regeneration gas.

The 'Main HTX' are two (2) separate brazed aluminum heat exchangers in their own cold boxes. The cold boxes are filled with perlite for insulation. The boxes also have continuous nitrogen purging to keep moisture from entering the box.

A handwritten signature in blue ink, appearing to be 'W' or 'u'.

GE Oil & Gas

**3.2.8 Refrigeration System (SCMR)**

The MR cycle shall be designed to minimize compression power and shall be optimized by using a specific refrigerant mixture of nitrogen, methane, ethylene, propane, and i-pentane for the customized design of the Plant. Like the liquefaction heat exchangers the refrigeration compressor sub-system is designed for maximum flexibility and efficient turndown through the implementation of a two (2) x fifty percent (50%) design configuration.

The MR refrigeration cycle starts with two (2) three-stage electrical motor driven centrifugal compressors, the 'Mixed Refrigerant Compressor' (the "MRC"). The methodology of the startup system will be analyzed further. The MR gas will be compressed in first stage of the MRC and then de-superheated with an air cooler before compression in the MRC second stage. The second stage MRC discharge directly into the third stage MRC suction. The third stage discharge will again be de-superheated in a third stage air cooler. The gases from each compressor will then combine and flow through the 'MR Cooler' where the gas is partially condensed and separated in the 'MR Separator'.

The vapor of the refrigeration streams from the 'MR Separator' enters pass 'D' of the 'Main HTX', where it is further cooled and used for the low temperature cooling pass 'F' of the 'Main HTX'. The liquid of the refrigeration streams from the 'MR Separator' enters pass 'E' of the 'Main HTX', where it is further cooled and used for the high temperature cooling pass 'G' of the 'Main HTX'. The gas then exits the heat exchanger and back to the MRC 1st stage for recompression.

The MRC will be a centrifugal compressor with an asynchronous motor driver and equipped with 'Inlet Guide Vanes' (the "IGV") that is configured to run efficiently for 50% - 100% Plant capacity. Increase turn-down is available, albeit at reduced efficiency. The use of adjustable IGV combined with adjustment of the compressor suction and discharge pressures for the compressor volume control is the most efficient method of controlling a constant speed compressor. The vanes are built into the inlet of the first stage of the compressor and can be controlled through the linkage mechanism automatically. The IGV adjusts the capacity with a minimum of efficiency loss and increase the stable operating range at design pressure. This is accomplished by pre-rotation of the gas entering the impeller, which reduces the head-capacity characteristics of the machine.

The MR composition will be monitored on a gas chromatograph that will be supplied with the Plant as part of Seller's Scope of Supply.

To minimize the loss of the MR and accommodate settle-out pressures at Taking Over, Seller shall provide an MR holding tank (the "MR Surge Tank") to 'absorb' the MR system settle out and hold MR expanding in the system after a long time shutdown, as well as an 'MR Transfer Compressor' to transfer MR from the MRC system and the coldbox to the MR Surge Tank before maintenance.

3.2.9 MR Makeup System

Seller shall provide the required interface and associated product heaters for MR storage and charging systems to ensure process safety against material brittle fracture. The Buyer supplied inventory of MR Makeup from the MR storage tanks will provide the refrigerants needed for daily MR makeup. The system will be monitored by the (Seller provided) on-line 'Gas Chromatograph' to assist Buyer's operations team with MR management.

The sweet and dry methane gas can be used as methane makeup to the refrigerant. The N₂ will be supplied from the high purity N₂ system, liquid N₂ will be purchased by Buyer. All of the other MR components shall also be purchased from outside of the Plant by Buyer.

A handwritten signature or initials, possibly 'AB' or 'W', in the bottom right corner.

GE Oil & Gas

**3.2.10 Fuel Gas System**

A fuel gas system will be provided to take the combined waste gas streams from LNG BOG (and/or inlet gas) and amine flash gas and condition as required before feeding the fired heater to manage and minimize overall Plant emissions.

3.2.11 Boil Off Gas Compression System

A 'BOG Heater' will be provided to warm the BOG before compression. The BOG will then be compressed with a 'BOG Compressor' and de-superheated before being used as fuel gas or being returned to the front end of the Plant for re-liquefaction. This design technique shall enhance overall Plant efficiency and reduce the need for flaring and emissions.

3.2.12 Flare System

The Plant pressure relieving system will be designed per API 520 '*Sizing, Selection, and Installation of Pressure-Relieving Devices in Refineries*', and API 521 '*Guide for Pressure-Relieving and Depressurizing Systems*'.

A high temperature flare header will be routed to the 'HF Flare Scrubber' before going to the flare. Additionally, a low temperature flare header will be routed to a 'LF Flare Scrubber' before going to the flare.

The flare stack shall be located away from the Site per code. The piping design to interconnect the 'Flare Scrubber Module' to the 'Flare Stack' will be included in Seller's Scope of Supply. Materials and labor for the interconnecting piping between the 'Flare Scrubber Module' and the 'Flare Stack' will not be included in Seller's Scope of Supply.

3.2.13 LNG Storage Tank System

The LNG from the cold box will flow to a storage system (such storage system is excluded from Seller's Scope Of Supply).

3.2.14 Cooling Medium System

Centrifugal pumps will supply the required glycol flow to users within the Plant, using a glycol and water mix. The return glycol from each user will flow through the glycol cooler and then into the glycol storage/expansion tank. The glycol storage/expansion tank will be pressurized with N₂ to mitigate degradation of the glycol.

3.2.15 LNG Load-out System

The LNG load-out system is excluded from Seller's Scope of Supply.

3.2.16 Condensate Storage System

Waste condensate will be routed to the 'Condensate Separator'. The liquid waste condensate will be sent to the 'Waste Condensate Storage Tank', excluded from Seller's Scope of Supply. The equipment required to empty the waste condensate system shall equally be excluded from Seller's Scope of Supply.

A handwritten signature, possibly 'AB', with a large, stylized 'W' or '3' below it.

GE Oil & Gas

**3.2.17 Instrument Air and Nitrogen Systems**

Instrument air ("IA") will be provided in a redundant compressor configuration. The IA will be dried with 'IA Dryers' and then held in an 'IA Buffer Tank' that has been sized to match the Plant's requirements. The I/A compressor package will contain lube-oil free compressors.

'High Purity Liquid Nitrogen' will be provided by Buyer (thus excluded from Seller's Scope Of Supply) and stored in the LN2 storage tank (included in Seller's Scope Of Supply) and vaporized to provide 'MR Makeup' based on the Plant's requirements.

'Low Purity Nitrogen' ("LPN2") generator will be provided as part of Seller's Scope Of Supply to supply inert purge and blanket gas to Plant users.

3.2.18 Water Purification

Seller will supply a demineralized water specification to Buyer for procurement of the required water purification system. The purified water will be filled into the 'Amine Makeup' (included in Seller's Scope of Supply) and 'Demineralized Water Makeup' (included in Seller's Scope Of Supply) and blend tanks for use in the amine system.

3.2.19 Gas Chromatograph Online Process Analyzing

The following gas streams will be connected to an online process analyzer to constantly monitor the Plant process and composition data:

- feed composition and MR composition (measured in six (6) different places)
- CO₂ analyzer to monitor the CO₂ content at the outlet of the amine unit
- moisture analyzer to monitor the H₂O content at the outlet of the MS dryers

3.2.20 Fire and Gas Detection System

On line 'Fire and Gas Detection' ("FDG") systems are required for safe Plant operations and regulatory compliance. Seller will supply the FGD system layout and device placement for equipment as part of its Scope of Supply.

3.2.21 Lightning Protection

A Site evaluation will be performed to determine the requirements for a lightning protection system that will be designed per industry standard practices. Seller shall supply individual lightning protection on instrumentation in accordance with the following:

- local gas charges on required electrical instrumentation
- surge suppression on main supply of remote IO panels
- motor surge protection for critical load equipment

Seller will also run fiber-optic cabling to control system components to achieve electrical isolation.

Seller shall supply and design the 'Lightning Rod/Air Terminal' system for connection to Buyer designed grounding system following completion of the Site evaluation.

3.2.22 Fire Suppressant Systems

Fire suppressant and firefighting systems are excluded from the Scope of Supply, and shall be based on the Buyer's HSSE and Plant operations philosophies and Seller's recommendations and advice in this respect.

A handwritten signature, possibly 'B' or 'W', is located in the bottom right corner of the page.

GE Oil & Gas



3.3 Plant Layout

A completed ISBL and equipment layout has been provided for reference in Appendix C. The specific Plant layout will be completed once LNG storage and load-out are finalized and the modifications are agreed on the pipe rack (from Canada to US layout).

3.4 Plant Isolation Philosophy

The 'Equipment Isolation Philosophy' is primarily achieved through the use of gate valves in non-flashing liquid service in conjunction with other valve types specifically selected for a given service requirement. The valves, which are designed and tested in accordance with API 598 standards, address the piping design required for the safe isolation of equipment and piping components for maintenance, inspection, replacement or removal from service. It does not cover the isolation of electrical and related equipment.

The primary basis in defining the isolation philosophy is that, an entire train would be down in order to maintain or gain access to most pieces of equipment in the Plant. This allows for minimizing the number of isolation valves and therefore reducing leak potential from valve stems, bonnets, or flanges.

3.5 Transportation

Seller shall package all modules that ship from Seller's manufacturing facility in a manner suitable for transport by sea and road. Seller shall put all equipment under plastic wrap (heat shrinking) and then cover such equipment with wooden boxes. Seller will provide such wood crating in compliance with ISPM "Regulation of Wood Packaging Material in International Trade (2009)".

Seller will provide lifting instructions for each and every box.

Seller shall cover all exposed and skid edge interconnecting flanged connections with plastic flange covers, which Seller shall reinforce with commercial/industrial grade shrink-wrap and export boxed where applicable.

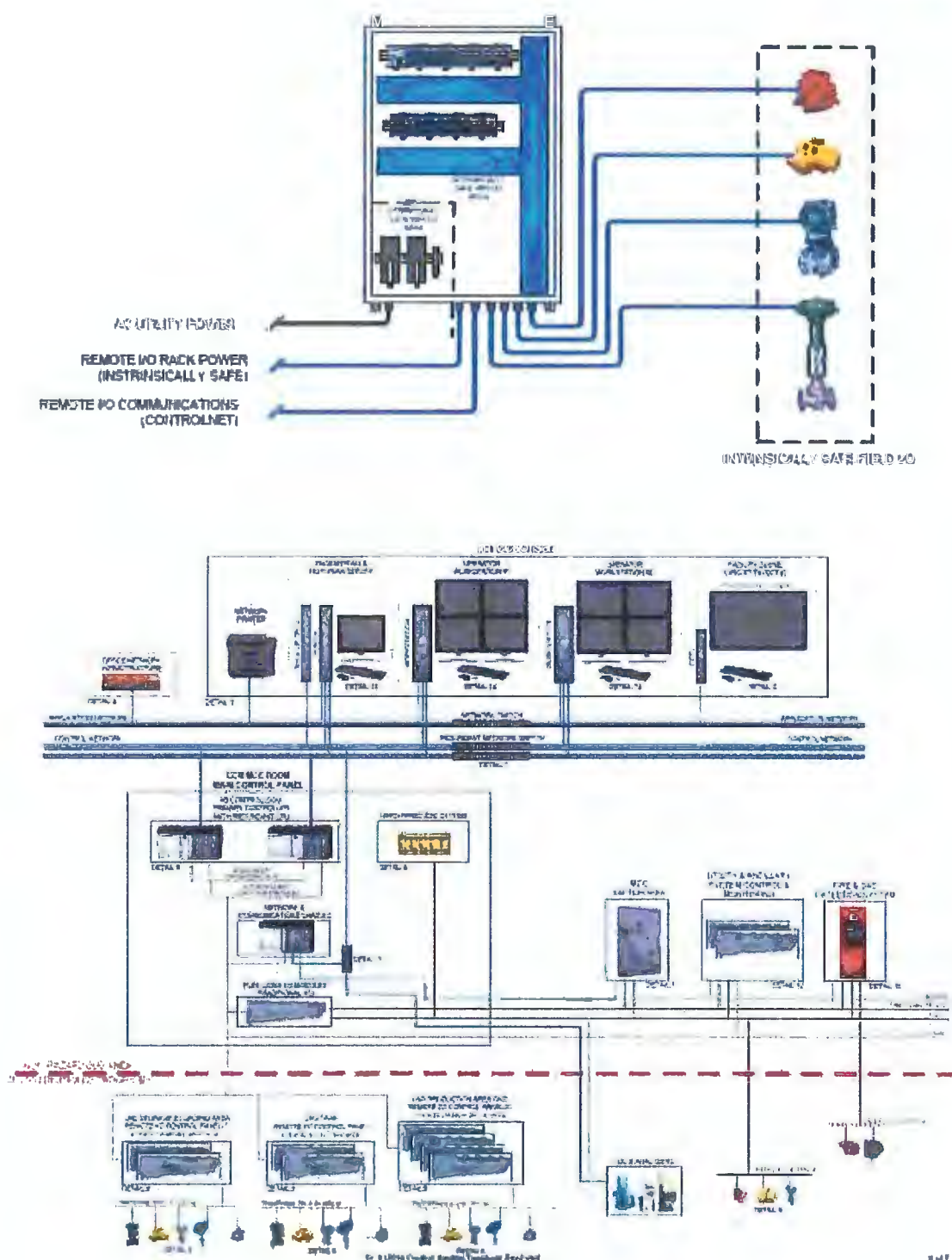
Cold Boxes shall be placed under positive nitrogen pressure. All other equipment will not be placed under positive nitrogen pressure;

3.6 Plant Control System

Seller's control system uses state-of-the-art control system hardware with current Plant control software and data historian products. The Plant control system is designed to be an all-inclusive and scalable system that combines the attributes of programmable logic controllers and distributed control systems. The result shall be a powerful process control system with a small, modular footprint that uses off-the-shelf, open technologies coupled with digital bi-directional communications with intelligent and traditional field devices. Seller's control system includes controller(s), local and remote IO, network, engineering and operator workstations and software which is custom tailored to fit the process application. Seller's control system is responsible for the primary control and supervision of all associated systems and processes.

3.6.1 Control System Architecture (sample system)

GE Oil & Gas



3.6.2 PAC (Programmable Automation Controllers)

A controller model is selected that will accommodate the control system I/O count, control program size, and scan time requirements. A standard architecture utilizes a single controller, but additional controllers may be implemented as required by the overall Plant design or to minimize field installation time. Controller redundancy can be provided as an option.

AB
3

GE Oil & Gas



3.6.3 Network

Ethernet Network

The GE control system uses enterprise and industrial grade Ethernet communication hardware for network communications between controllers, workstations and servers. Seller shall provide with the standard control system an Ethernet switch configured with VLANs to segregate the control and application networks.

Remote I/O Network

Remote I/O racks are networked into the control system using robust networking protocols and media. In situations where the network is required to be installed within a hazardous location, the remote I/O network is galvanically or optically isolated from the standard network and fiber optic shall be used.

Secondary Networks

Additional "bus" networks can be optionally provided to interface to third party stand-alone systems. Typical examples of integrated systems are gas chromatographs, analyzers, power meters and existing control systems.

3.6.4 I/O Interface Hardware

Process I/O is interfaced to the control system through on-module remote I/O racks. The standard configuration shall include simplex I/O cards. Redundant I/O can be supplied as an option.

Customer I/O can be integrated into the GE control system upon request, up to a maximum count of 70 Customer I/O.

3.6.5 Emergency Shutdown System

The 'Emergency Shutdown System' (the "ESD") is a standalone shutdown system comprised of SIL 2 rated safety relays, sensing elements (typically push buttons and process measurement devices) hardwired into the safety relay inputs. Upon activation of the ESD, the safety relay outputs are used to disconnect control power from critical process control elements and rotating equipment motor starters placing the equipment and Plant into a stopped or closed state.

Additional inputs can be connected to the ESD as an option and the system is designed with several spare inputs to accommodate Plant expansion or regulatory requirements.

3.6.6 Computer Hardware/Software

State-of-the-art software running on high quality PCs ensures process control system availability. The control system is provided with current versions of HMI and programming software to take advantage of new technologies and upgrade paths can be provided as the system ages.

The 'Control System' utilizes enterprise grade computers which are configured by the Seller to best suit the control system requirements. An operator workstation and an engineering/historian workstation is included in the Scope Of Supply. Each workstation is supplied with the necessary software packages to perform the necessary duties of its intended user.

Additional operator and engineering workstations can be provided upon request.

A handwritten signature in blue ink, appearing to be 'AM' with a flourish below it.

GE Oil & Gas



3.6.7 Hardware Details

Operator Workstation

The operator workstation is used as the primary operator interface where engineering capabilities are not required. The operator workstation shall be an enterprise grade workstation running Microsoft Windows operating system with two hard drives in a RAID 1 configuration.

The operator workstation shall include software packages that provide for process control, real time and historical trending, prioritized process alarm presentation and are configured with administrator configurable, built-in security features.

The operator workstation shall host the backup I/O server which automatically connects to the controller and begins to serve process data to the HMI in the case of a primary I/O server failure. The operator workstation shall be provided by Seller with multiple flat screen monitors, arranged in a one-over-one orientation where windows can be positioned and configured as required by the operations staff.

Engineering Workstation/Historian Server

The engineering workstation is a server class machine running Microsoft Windows Server operating system with RAID 5/6 hard-drive configuration. The hard drives are sized to store one year of Historian data.

The engineering workstation shall be used as the primary I/O server, historian server, and programming terminal. A backup operator interface is provided with this workstation. Optionally, a Historian client can also be installed if trending or data analysis functionality is required on this workstation. The engineering workstation shall be provided with a single flat screen monitor.

3.6.8 Software Details

Historian Server

The Historian server is a high-performance real-time database for collecting and storing process data. The Historian is designed to collect a wide variety of Plant data, at full resolution, and high data rates, ensuring that operators and management have the information necessary for efficient Plant operations.

Historian Client

The Historian client provides operators with rich data analysis and reporting capabilities to maximize the value of the data stored in the Historian database. The Historian client shall have operator configurable real-time and historical trending capabilities in conjunction with integration with the Microsoft office suite which provides an avenue for advanced data analysis and report generation.

Supervisory Control and Data Acquisition Software ("SCADA")

The Seller supplied SCADA software provides a user-friendly operator interface that has full-function graphics, historical trending capabilities, process alarming, event logging, and built in security. All major process piping and control functions are visually represented in the SCADA application with

AM
W

GE Oil & Gas



detailed process screens for precise control along with high-level overview screens for entire Plant monitoring. Multiple monitors enable the operator to view several process systems simultaneously.

3.6.9 Electrical Control System Layout

MCC Building

Motor Control Center ("MCC")

Seller shall supply an MCC for all process Plant electric motors. All MCC I/O will be hardwired to the control system.

Customer loads can be incorporated into the process Plant MCC as an option, if it does not exceed 3 VFD's for loadout pumps Additional loads will require a Change Order.

Skid Equipment

All instrumentation on the Seller manufactured skids is wired to on-skid remote I/O cabinets for quick and easy field installation. The cable tray design shall be agreed during Kick-Off meeting. Skid electrical up to 480 VAC and 24 VDC will be wired on the skids. Main segment cables will be disconnected for shipment and re-installed in the field, allowing for a quick and efficient re-installation.

3.6.10 UPS/Power Redundancy

An uninterruptable power supply (UPS) is provided to supply conditioned and backup control power to all critical process control system equipment. The UPS is sized to provide power to control system loads for thirty (30) minutes.

The UPS size can be increased to accommodate additional loads as an option.

3.6.11 Electrical Power Distribution Center(s)

A modular power center will be provided with medium and low voltage motor control centers.

All electrical power distribution equipment, motor control centers, control system power supplies, and PLC control panels are installed in a prefabricated modular building designed and constructed to applicable industry and local standards. The modular building is fabricated on a steel base and employs metallic interlocking wall and roof panels. The building and electrical equipment is designed for thru-wall top cable entry or additional structure can be added to the base allowing for an elevated installation and bottom cable entry.

The self-contained building shall be equipped with suitable HVAC systems, interior / exterior lighting,



AG
W

GE Oil & Gas



power outlets, and networking panels. All interconnecting cabling shall be installed in cable tray or conduit and tested prior to shipment.

In preparation for shipment, all equipment inside the PDC shall be securely braced and the entire building shall be shipped as close to a complete state as possible. Upon delivery to the installation site, the PDC shall require minimal connection to the incoming power supply and Site grounding facilities.

3.7 Document and Deliverable List

Below is a list of deliverables which comprise the Technical Documentation for the Plants:

- Basis Of Design
- Heat & Material Balance at Design Point
- Heat & Material Balance for Rich case, Lean case and at 40 barg feed gas pressure Process Description and Control Narratives
- Process Flow Diagrams (PFDs)
- Lightning Protection site evaluation report
- Piping and Instrumentation Diagrams (PSIDs)
- ISBL Plant Layout
- ISBL Module List
- ISBL Utility Consumption List
- ISBL 3D Model Review (50% & 90%)
- Customer Tie-In List
- Line List (including Sizing Calculations)
- IFC Piping Isometrics
- Flare System Hydraulic Calculations (up to location specified in contract)
- Process Safeguarding Report (PSR)
- PRV List
- PRV Calculations/Datasheets
- Equipment List
- Equipment Data Sheets & Drawings
- Manufacturer's Data Reports & Manuals (linked table of contents)
- Control Valve Data Sheets
- Control Valve Data/Summary list
- Hand Valve List
- On/Off Valve Data Sheets
- I/O List
- Electrical Load List
- HMI/ PLC Factory Acceptance Test Report
- Control System Topology
- Electrical One-Line Diagrams
- Main & Remote I/O Panel & Junction Panel Drawing Package
- Arc Flash & Electrical Coordination Reports
- Instrument Vendor Calibration Certificates

Seller shall provide software to view the plant models. Seller shall also discuss with Buyer at kickoff meeting about specific maintenance needs that software or reference material may provide. Seller

AD
W

GE Oil & Gas



will deliver final sets of documents electronically through a mutually agreeable file server, to be discussed at the kickoff meeting.

The due date for each of the above deliverables shall be agreed between the Parties during the kick-off meeting for the project, to be held within one (1) month of the Effective Date.

3.8 Codes and Standards

The Codes and Standards basis used for this proposal are as follows:

- American Society of Mechanical Engineers (ASME)

ASME II	Materials
ASME V	Non-Destructive Testing
ASME VIII	Pressure Vessels, Division 1
ASME IX	Welding and Brazing Qualifications
ASME B16.34	Valves - flanged, threaded and welding end
ASME B16.5	Pipe Flanges & Flanged Fittings
ASME B31.3	Process Piping
ASME B31.5	Refrigeration Piping

- National Fire Protection Association (NFPA)

NFPA 59A (2012)	Standard for the Production, Storage, and Handling of LNG

- All electrical equipment shall be in compliance with

-	NEMA, ANSI-IEEE, IEC codes
---	----------------------------

- Other

ASCE 7-10	Minimum Design Loads for Buildings and Other Structures
NACE RP0169	Control of external corrosion on underground or submersed metallic piping systems

- U.S. Department of Labor, Occupational Safety and Health Administration (OSHA)

OSHA 29 CFR 1910	Occupational Safety and Health Standards
------------------	--

AB
W

GE Oil & Gas



4 Performance

4.1 Plant Performance

The Plant is designed around a "standard" refrigeration system. The system's refrigeration capacity is determined by its main components, which include: refrigeration compressors brazed aluminum heat exchanger(s).

The Guaranteed Performances per Plant are set out in Annex B (in the tables entitled "Plant Summary" and "100") and are as follows:

- (i) the LNG Throughput Capacity shall be the 'LNG @ Tank Inlet' as set out in Annex (B) (which at the Effective Date shall be 765.1 TPD);
- (ii) the Power Consumption shall be the 'Estimated Power' as set out in Annex (B) (which at the Effective Date shall be 13882 kW for the 'Total Plant'); and,
- (iii) the LNG Quality as set out in Annex (B) (which at the Effective Date is as designated under table '100').

It is understood and agreed that the above Guaranteed Performances may vary in the event changes are introduced to the Basis Of Design. In such case, Seller shall re-calculate the Guaranteed Performances and propose an update of Annex (B). If Buyer confirms its agreement in writing with these calculations and with the proposed update of Annex (B) provided by Seller, such update shall replace Annex (B). Buyer understands that such change to the contractual Basis of Design may result in a Change Order (affecting both price and delivery).

The following protocols have been developed to confirm the Plant's performance, reliability, and overall Plant acceptance.

4.1.1 Testing Methods

Design Case

The 'design case' will incorporate the dynamics and design limits of the equipment selected during detailed design and will be the basis for all Acceptance Testing and associated Performance Guarantees.

Detailed Inspection Test Plan and related procedures

No less than three (3) months prior to the contractual Delivery Date, Seller shall prepare a draft Inspection Test Plan and related procedures for the Acceptance Tests listed below, which Buyer shall review. In case Buyer agrees with Seller's proposed draft Inspection Test Plan, Buyer shall approve the draft Inspection Test Plan in writing.

Measurement Accuracy

All measurements taken during the conduct of tests shall be made using the Plant's instrumentation, which shall have accuracy commensurate with the expected pass criteria of the tests.

4.1.2 Start-Up Tests

Stable Operation

The Plant is to attain stable operation before testing commences. Seller will issue a Test Certificate to Buyer that the Plant is ready for Acceptance Tests. Acceptance Testing will commence within

Handwritten initials "B" and a checkmark.

GE Oil & Gas



forty-eight (48) hours of certificate issuance, and will be conducted in accordance with the Services Agreement. In the event the Acceptance Tests cannot be completed due to gas supply, power supply or factors outside Seller's control then the Plant will be considered provisionally accepted. The Acceptance Tests will be rescheduled at a mutually agreeable time, at Buyer's expense.

Inlet Pressure

Inlet pressure to the Plant is to be regulated above the minimum design Plant design pressure throughout the test. If the supply pressure drops below the minimum required pressure the test will be suspended and then recommenced when the pressure rises above the minimum required and production has re-stabilized. If minimum pressures cannot be achieved in a reasonable time, then the Plant will be considered provisionally accepted. The Acceptance Tests will be rescheduled at a mutually agreeable time, at Buyer's expense.

Inlet Gas Analysis

A gas analysis of the inlet gas to the Plant will be performed by Buyer before a Plant production and Performance Test can be started. The inlet gas analysis must reflect the contractual design basis before Performance Testing will commence. Major variations in inlet gas content can have drastic effects on overall Plant capacity.

Full capacity

The full Plant capacity will be tested for a continuous period of time of at least twenty-four (24) hours but no more than forty-eight (48) hours.

4.1.3 Performance Tests

The Plant's LNG Throughput Capacity and LNG Quality and the Power Consumption shall be tested at least three (3) times, each for a continuous period of time of at least twenty-four (24) hours, in order to determine whether the Plant meets the Guaranteed Performances.

In the event that gas supply issues limit the feed gas quantity, the test(s) will be completed with the maximum available gas, and considered provisionally accepted by Buyer.

Any power consumption guarantees will be limited to equipment and systems in Seller's Scope of Supply. During the Performance Tests, the power consumption figures shall be recorded and compared against design figures. Any discrepancies will be noted and reviewed for possible action.

A handwritten signature in blue ink, appearing to be 'M' over 'W'.

GE Oil & Gas



5. Project Execution

5.1 Execution Strategy

A strategy will be developed to assemble a full project team to ensure 'Customer Satisfaction', 'Safety Quality', and execute cost controls, scope monitoring, scheduling, risk analysis, procurement, document control, and manufacturing during the project. This strategy will be implemented upon signature of the Agreement.

5.2 Project Team

Within ten (10) Working Days of the Effective Date, Seller shall propose a project team to Buyer which shall include individuals to perform the following roles and responsibilities for project execution management.

The project team will be comprised of several GE employees including:

Project Engineer

The Project Engineer ("PE") is a member of Seller's key project execution team that is ultimately responsible for all the technical aspects of the project. The PE will interact with Buyer's technical team to validate technical requirements and work directly with Seller's engineering team to fulfill all aspects of the project execution. The PE will be responsible for scheduling, monitoring and controlling of specific engineering deliverables and also serves as the senior technical lead for the project, providing reviews and approvals required by Seller's ISO procedures.

Project Manager

The Project Manager ("PM") shall be Buyer's single point of customer interface and accountability for project delivery. The PM shall complete all matters of project control and shall work closely with Buyer to ensure that Buyer's requirements are met or exceeded throughout the project life cycle. The PM will proactively identify project risks and expedite team members accordingly.

Scheduling and Project Control

The scheduling and project control function shall develop, maintains and tracks project plans and schedules, creating, updating, analyzing, controlling and communicating project plans, schedules and deliverables. In addition this function will assist on the identification of variation requests and provide impact diagnosis to schedule.

Document Control

The document control function receives, tracks & distributes project documentation (vendor/supplier, customer and project internal documentation). It also performs audit revisions, archiving, transmittal, to ensure proper controls (versioning, naming, storing) and completeness of documentation.

A handwritten signature, possibly 'AS', followed by a large handwritten 'C'.

GE Oil & Gas



Annexes

Annex (A) – Basis Of Design

PLANT SITE CONDITIONS: Not provided by Buyer. Seller assumed location in city of Warri, Nigeria as nearby and with recent (2009) available ASHRAE data.

Site elevation and barometric:

	Unit	DESIGN
Min. elevation above sea level	M	393
Max. barometric Pressure	PSIA	TBD*

Temperature:

	Unit	DESIGN
Minimum temperature, 20 year	°C	14.4
Air Cooler Process Design Air Temperature	°C	30
Design Drybulb (Cooling)	°C	36.1*
MDMT (Outdoor)	°C	-15*
MDMT (Indoor)	°C	-10*

TYPICAL SITE DATA AVAILABLE FROM ASHRAE:

Wind:

	Unit	Design
Design wind speed	m/s	6.1

SEISMIC DATA:

	Unit	Design
US seismic zone per code ASCE 7-10 or equivalent		TBD

PLANT DESIGN OPERATION DAYS AND DESIGN LIFE:

		Design
Plant design operation days	Day	330
Plant design life	Year	20

*Am**W*

GE Oil & Gas



PLANT DESIGN CAPACITY:

		Design
Plant design nominal capacity	MTPA	0.25
Plant design turndown capacity	%	25

DESIGN FEED GAS CONDITIONS:

		Performance Analysis Cases		
	Design Case	Lean Case	Rich Case	Notes
	mol %	mol %	mol %	
Methane	89.0478			No Lean case provided
Ethane	5.6014			No Rich case provided
Propane	1.9305			
n-Butane	0.4909			
i-Butane	0.3625			
n-Pentane	0.1349			
i-Pentane	0.1823			
n-Hexane	0.3085			
n-Heptane	0.0			
Benzene	0.0			
Toluene	0.0			
Ethylbenzene	0.0			
o-Xylene	0.0			
Nitrogen	0.0439			
Oxygen	0.0			Any O2 will require O2 removal system
CO2	1.8973			Standard design of Amine system
H2S	<4ppm			
COS	0.0			
Odorant	0.0			
Total	100.000	100.000	100.000	
Gas Temp	10-49 C	C	C	
Gas Pressure	61 barg	Barg	barg	

AM
3

GE Oil & Gas



PRODUCT SPECIFICATIONS:

Components	Units	Design
Nitrogen	mol%	1.24
Carbon Dioxide	ppm(mol)	≤ 50
Methane	Vol%	85.0 min 97.0 max
Ethane	Vol%	TBD
C3	Vol%	TBD
C4	Vol%	TBD
C5+	Vol%	TBD
Max vapor pressure at equilibrium temp	psig	TBD
OR Methane Number Minimum	na	TBD

PRODUCT STORAGE AND LOAD-OUT:

	Design	Notes
Total LNG storage capacity	By Buyer	
LNG storage operation pressure	1-2 barg	

POWER SUPPLY:

		Design
Voltages	Volt	400/220/24 11KV
Phases		3 + neutral + earthing
Frequency	Hz	50

TAG#	DESCRIPTION	DF	VOLT	HP
MK-0601	BOG Compressor Motor	1	380	450
MK-0501A	MR Compressor Motor A (MRC)	1	11000	10500
MK-0501B	MR Compressor Motor B (MRC)	1	11000	10500

SKID/MODULE TRANSPORTATION LIMIT:

		Design
Max. dimensions (W x H x	M	4x4x16

AM
W

GE Oil & Gas

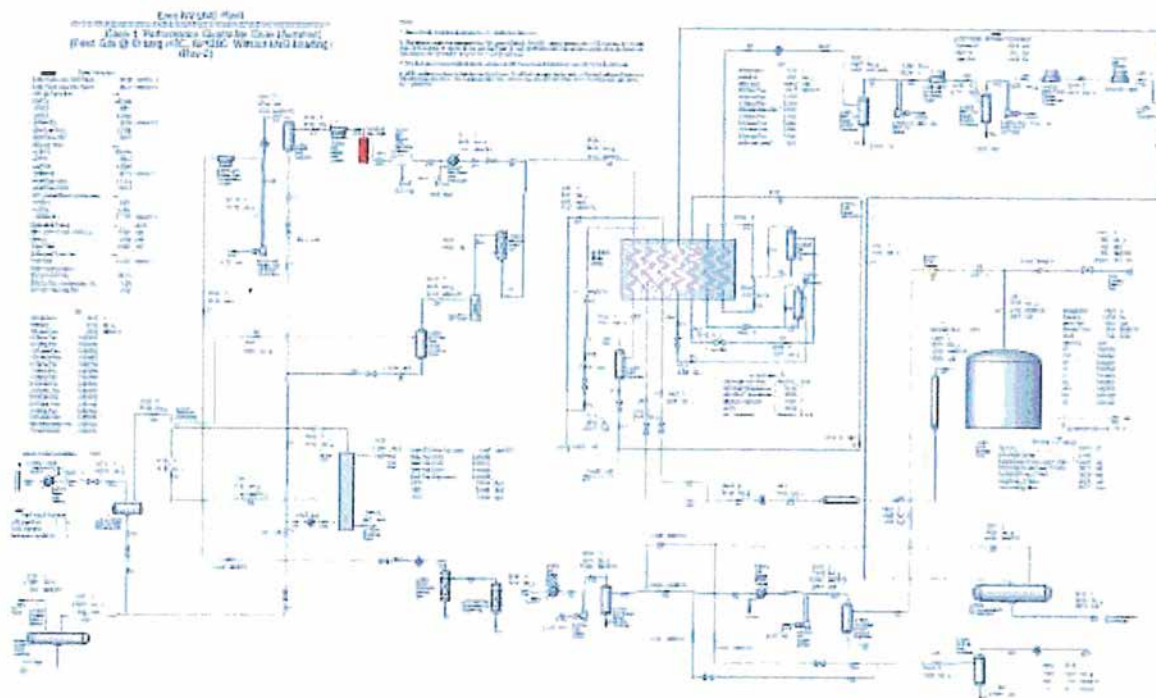


L)		
Max. weight	Tons	75

Handwritten initials and a checkmark.

of 565

[]

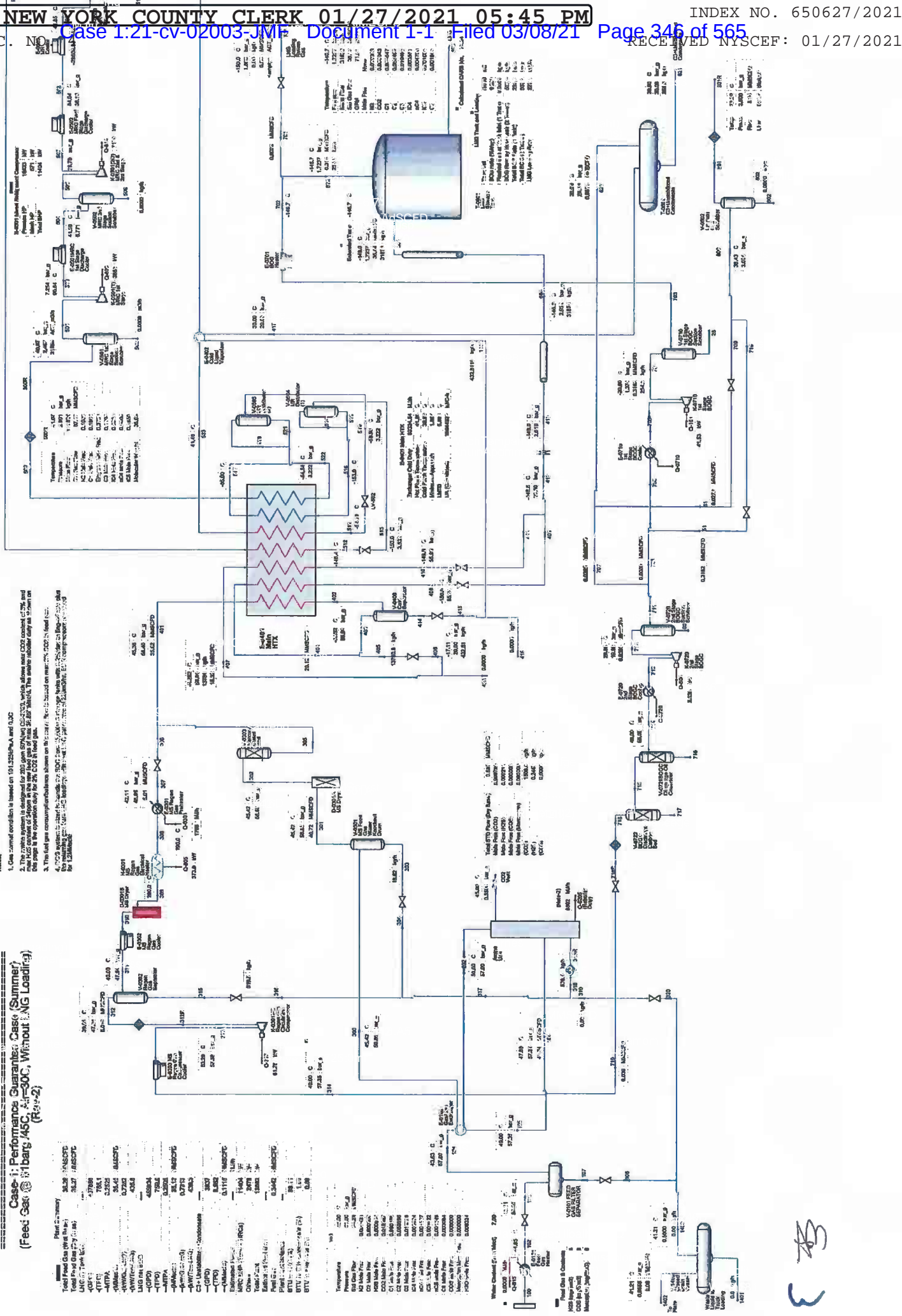


Eres: NY LNG Plant

Case-1: Performance Guarantee Case (Summer)
(Feed Gas @ 61 barg, 45C, $\Delta T=30C$, Without LNG Loading)
(Rev-2)

Value

- [illegible]

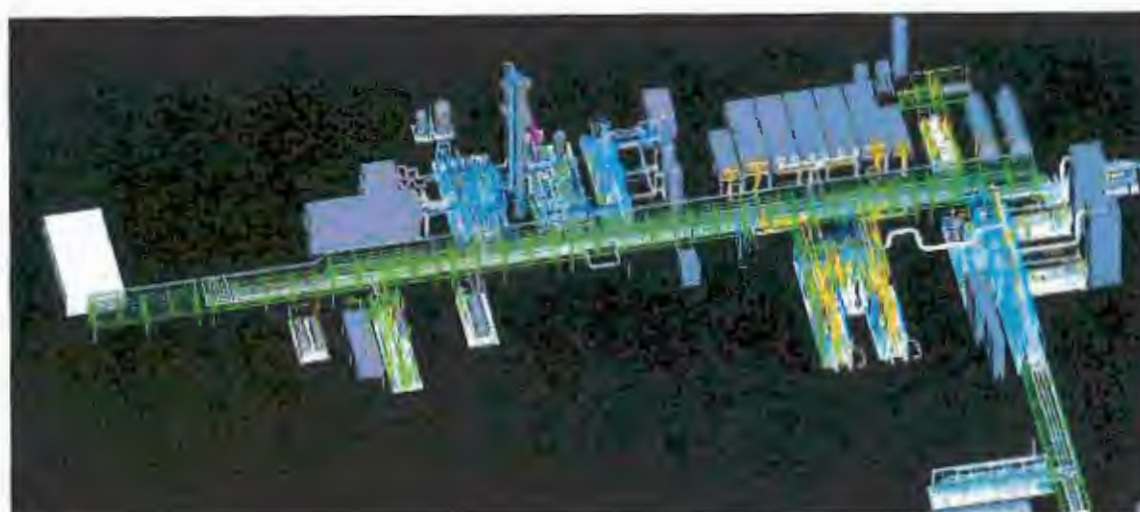
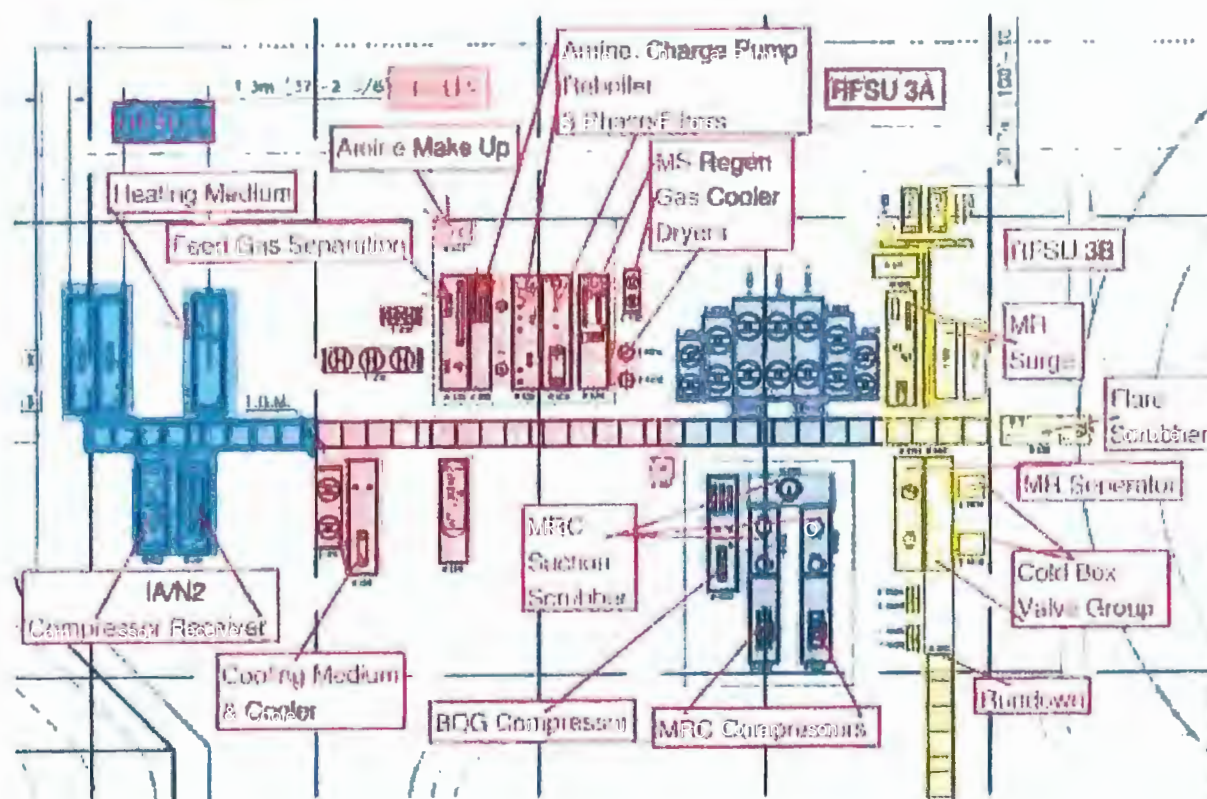


AM
W

GE Oil & Gas

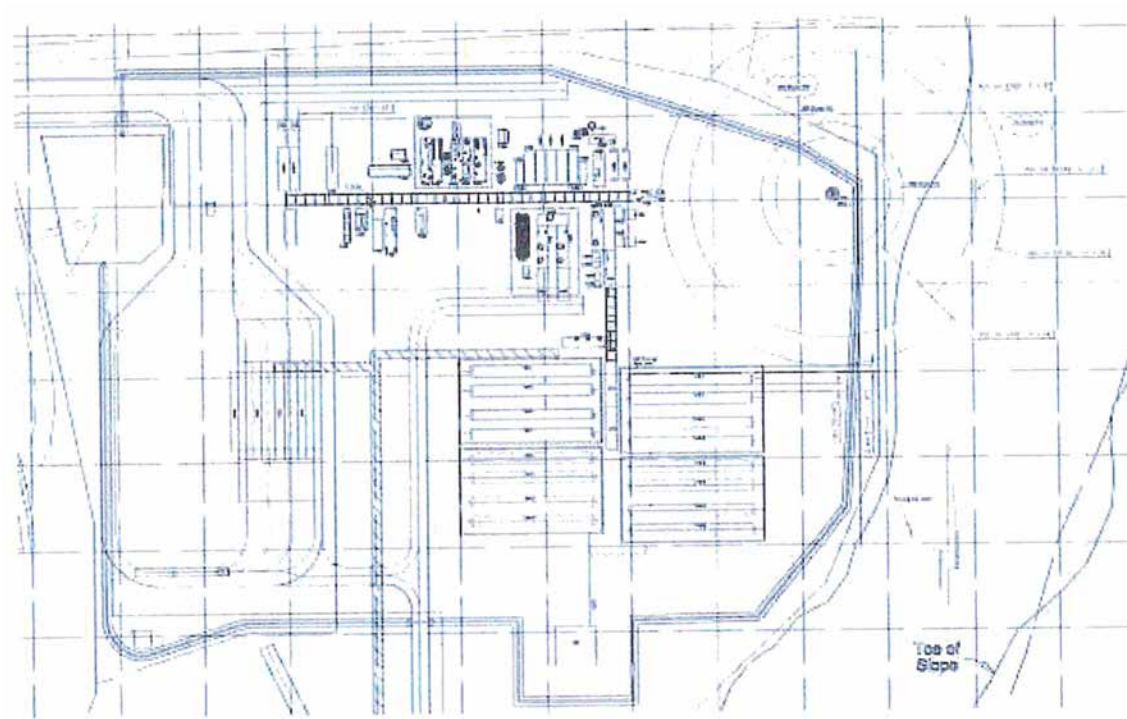


Annex (C) – Sample Plant layout



AB
C

GE Oil & Gas



Handwritten signature and initials.

APPENDIX B – FORM OF IRREVOCABLE STANDBY LETTER OF CREDIT

[Subject to review of the Issuing Bank]

Issuing Bank: KBC Bank, Belgium

Confirming Bank: Deutsche Bank AG, New York Branch

Issue Date: On or before October 13, 2014

Beneficiary: GE Oil & Gas, Inc.
1150 Schwab Road
Schertz, Texas 78132

Applicant: International Engineering & Construction S.A.
Rue de Neudorf 36
L-2222 Luxembourg, Luxembourg

Gentlemen,

By order of our client, International Engineering & Construction SA, Rue de Neudorf 36 L-2222, Luxembourg, Luxembourg (hereinafter known as "IEC") and for account of same, we hereby establish our Irrevocable Standby Letter of Credit (the "Letter of Credit") in your favour on the following terms and conditions:

1. Definitions

In this Letter of Credit:

"Business Day" means a day (other than a Saturday or a Sunday) on which banks are open for general business in Belgium.

"Demand" means a demand for a payment under this Letter of Credit, in the form of Annex (A) to this Letter of Credit, duly completed and signed by a duly authorized signatory of the Beneficiary.

"Expiry Date" means the earlier of:

- (i) the date (if any) notified by the Beneficiary to the Issuing Bank as the date upon which the obligations of the Issuing Bank under this Letter of Credit are released;
- (ii) July 13, 2016; or,

AM
h

- (iii) the date on which the Letter of Credit is returned by the Beneficiary to the Issuing Bank for cancellation; or,
- (iv) the date on which the Total L/C Amount of this Letter of Credit is reduced to 0 (zero).

"Total L/C Amount" means USD 16,150,000.00 (sixteen million one hundred and fifty thousand United States Dollars).

2. Issuing Bank's agreement

- 2.1 The Beneficiary may request a drawing under this Letter of Credit by giving a Demand to the Confirming Bank. A Demand must be received by the Issuing Bank by 12:00 p.m. (Belgian time) on or before the Expiry Date.
- 2.2 Upon the receipt of a Demand the Confirming Bank will notify it to the Issuing Bank by authenticated swift.
- 2.3 Subject to the terms of this Letter of Credit, the Confirming Bank and Issuing Bank unconditionally and irrevocably undertake to the Beneficiary that, within ten (10) Business Days of receipt by it of a Demand, they will pay to the Beneficiary the amount demanded in that Demand.
- 2.4 The Confirming Bank or Issuing Bank will not be obliged to make a payment under this Letter of Credit that exceeds the Total L/C Amount.
- 2.5 The Confirming Bank will examine documents presented under this Letter of Credit, including for the avoidance of doubt the Demand and enclosed documentation, with the diligence of an orderly business company.
- 2.6 Partial drawings are permitted, but shall correspondingly reduce the Total L/C Amount.
- 2.7 All opening bank charges including, but not limited to, fees or commissions shall be for Applicant's account; confirmation charges shall be for Applicant's account.

3. Expiry

- 3.1 On the Expiry Date the obligations of the Confirming Bank and Issuing Bank under this Letter of Credit will cease with no further liability on the part of the Confirming Bank and Issuing Bank except for a Demand validly and timely presented under this Letter of Credit that remains unpaid.
- 3.2 On the Expiry Date the Beneficiary must return the original of this Letter of Credit to the Issuing Bank.

4. Payments

AB
W

4.1 All payments under this Letter of Credit shall be made in United States Dollars and for value on the due date to the account of the Beneficiary specified in the Demand.

5. **Delivery of Demand**

5.1 Demands shall be in writing, and, unless otherwise stated, shall be made by letter and must be sent in legible form to the Confirming Bank to its address and particular department as follows:

Trade Services | Global Business Services
Deutsche Bank AG - Global Trade Finance Operations
60 Wall Street, 38th Floor, New York, NY U.S.A., 10005-2858
Tel. +1(212)250-1105
Fax +1(212)797-0780

6. **Assignment**

6.1 The Beneficiary's rights under this Letter of Credit may not be assigned or transferred.

7. **Governing Law**

7.1 This Letter of Credit and any (non-)contractual obligations arising out of or in connection with it are governed by New York law.

7.2 Except as far as otherwise expressly stated herein, this Letter of Credit is subject to the Uniform Customs and Practice for Documentary Credits International Chamber of Commerce Publications No. 600 (rev. 2007).

8. **Jurisdiction**

8.1 The courts of New York County, New York and the Federal Courts located in the Southern District of New York have exclusive jurisdiction to settle any dispute arising out of or in connection with this Letter of Credit (including a dispute relating to any non-contractual obligation arising out of or in connection with this Letter of Credit).

For the Issuing Bank:

Name:

Function:

AM
W

ANNEX (A) - FORM OF DEMAND

To: [ISSUING BANK]

Date: [•]

Dear Sirs,

Standby Letter of Credit no. [•] issued in favour of GE Oil & Gas, Inc (the "Letter of Credit")

We refer to the Letter of Credit. Terms defined in the Letter of Credit have the same meaning when used in this Demand.

1. We attach to this Demand an original GE invoice (the "Invoice"). The Invoice is issued under the duly executed purchase agreement entered into on [•] between the Beneficiary and the Applicant (the "Contract").
2. We certify that the sum of [•], represented in the Invoice, is part of the Contract Price (as defined in the Contract), is due as per the terms of the Contract, but has remained unpaid.
3. We therefore demand payment of the sum of [•] under the Letter of Credit.
4. Payment should be made to the following account:

Bank of America Merrill Lynch
A/C Name: GE Oil & Gas Inc.
901 Main Street
Dallas, TX 75202
ABA routing number: 026009593
SWIFT Code for Bank of America: BOFAUS3N
ACH#: 111000012

5. The date of this Demand is not later than the Expiry Date.

For the Beneficiary:

Name:

Function:

AM
C



GE Oil & Gas

INVOICE

Due Date

10-OCT-14

INVOICE NO.	PAGE
	1 / 1
INVOICE DATE	
10-SEP-14	

GE Oil & Gas Inc
4424 W. Sam Houston Parkway N.
Houston, TX 77041
United States

REMIT TO:

GE OIL & GAS INC.
PO BOX 845577
DALLAS TX 75284-5577
United States

Bill To

Ship To

CUSTOMER PURCHASE ORDER NUMBER				REP#1	REP#2
CUSTOMER ROUTING CODE					
ORDER NUMBER	ORDER DATE	CUSTOMER ID NUMBER	SHIP DATE	FREIGHT TERMS	SHIP VIA

PO LINE	SO LINE	QTY ORDERED	QTY SHIPPED	QTY B.O.	PART NO./DESCRIPTION	UOM	ITEM	AMOUNT USD

COMMENTS WIRE TRANSFER INSTRUCTIONS
BANK OF AMERICA MERRILL LYNCH
A/C NAME : GE OIL & GAS INC
901 MAIN STREET
DALLAS, TX 75202

SWIFT : BOFAUS3N
A/C NUMBER 4427190670
ROUTING NUMBER 026009993
ACH# 111000012
PAYABLE IN U. S. DOLLARS
THANK YOU FOR YOUR ORDER

SALE AMOUNT	
MISC. CHARGE	0.00
FREIGHT	0.00
SALES TAX	0.00
TOTAL	

PAYMENT TERM
TRACKING NUMBER

NET 30 DAYS

Appendix C - Form of Performance Bond

Issuing Bank: [As per the definition of 'Performance Bond' in the Agreement]

Amount: USD 4,750,000.00 (Four Million Seven Hundred and Fifty Thousand United States Dollars)

Issue Date: [13 November 2015]

Expiration Date: [13 July 2016]

Beneficiary: International Engineering & Construction S.A.
Rue de Neudorf 36
L-2222, Luxembourg, Luxembourg

Applicant: GE Oil & Gas, Inc.
4424 West Sam Houston Parkway N.,
Houston, Texas 77041, United States of America

By order of our client, the Applicant (as defined above), and for account of same, we hereby issue this performance bank guarantee (the "Performance Bank Guarantee") in favor of the Beneficiary, and we hereby unconditionally and irrevocably undertake under this Performance Bank Guarantee to pay to the Beneficiary (as defined above), on Beneficiary's first demand, within fifteen (15) business days the amount demanded by the Beneficiary up to the aggregate Amount (as defined above), upon presentation of the following documents by the Beneficiary:

- (1) A statement purportedly signed by a duly authorized signatory of the Beneficiary stating that:

'GE Oil & Gas, Inc. has failed to perform its obligations in accordance with the terms of the contract (the "Contract") dated [●] between International Engineering & Construction S.A. and GE Oil & Gas, Inc. in respect of the Guaranteed Performances (as defined in the Contract) and we hereby demand payment in the amount of (Written Amount and Figures/Currency) under Performance Bank Guarantee No. [●]';

- (2) A copy of the written notice sent by the Beneficiary via express mail courier to the Applicant dated at least 30 business days prior to presentation of any claim hereunder, which notice shall state that:

'GE Oil & Gas, Inc. is in breach of its contract obligations under the contract (the "Contract") no. [●] dated [●] in respect of the Guaranteed Performances (as defined in the Contract). Accordingly, we intend to claim Performance Bank Guarantee No. [●], issued by [●] for [●] [specify amount of claim] in the event

102

W

GE Oil & Gas, Inc. fails to cure such default within thirty (30) business days from the date of this notice'; and,

- (3) A copy of the express mail courier receipt referred to in (2) above.

It is a further condition that this Performance Bank Guarantee shall from time to time be reduced, if Beneficiary agrees, upon presentation by the Applicant of A Copy of GE Oil & Gas, Inc.'s statement, purportedly signed by an authorized representative of GE Oil & Gas, Inc., stating that:

"In the frame of Contract no. _____ Dated _____ (Specify Event) has occurred. Accordingly, [Issuing Bank] Performance Bank Guarantee No. _____ is to be reduced by (Specify Amount) effective (Date)". This Statement must be purportedly countersigned by an officer of Beneficiary.

This Performance Bank Guarantee will automatically expire on the earliest of:

- (i) the date that the Amount of this Performance Bank Guarantee is reduced to zero;
- (ii) the date this Performance Bank Guarantee is returned for cancellation; or
- (iii) 13 July 2016.

Except as so far as otherwise expressly stated herein, this Performance Bank Guarantee is subject to the Uniform Rules for Demand Guarantees, International Chamber of Commerce ICC Publication no. 458. As to matters not covered by such rules, and, to the extent not inconsistent therewith, the law of the state of New York, including the uniform commercial code as in effect in the state of New York.

APPENDIX D- FORM OF PARENT COMPANY GUARANTEE

This Parent Company Guarantee (the "Guarantee") is made as of the [REDACTED] day of [REDACTED], 2014, by [REDACTED], a company duly organized and existing under the laws of the [REDACTED] with its head office situated at [REDACTED] (the "Guarantor"), for the benefit of [REDACTED], a company duly organized and existing under the laws of [REDACTED], with its head office situated at [REDACTED] (the "Beneficiary", where Guarantor and Beneficiary are individually referred to herein as a "Party" and collectively as the "Parties", and references to Guarantor and Beneficiary shall include their successors and permitted assigns).

RECITALS:

WHEREAS, International Engineering & Construction S.A., a corporation duly organized and existing under the laws of Luxembourg, with its head office and place of business situated at Rue de Neudorf 36 L-2222, Luxembourg, Luxembourg (herein called "Buyer") is a subsidiary or an affiliate of Guarantor;

WHEREAS, Beneficiary has entered into a Contract (the "Contract") with Beneficiary dated September 13, 2014, for the sale of two small scale SCMR LNG plants;

WHEREAS, Beneficiary is willing to enter into the Contract on the condition, among others, that Guarantor executes and delivers this Guarantee;

WHEREAS, Guarantor is willing to enter into this Guarantee to induce Beneficiary to enter into the Contract.

NOW, THEREFORE, in consideration of the premises and mutual covenants set forth herein, the Parties hereto agree as follows:

1. Guarantor hereby guarantees to Beneficiary that in the event of Beneficiary's failure to perform or observe the terms and provisions of the Contract, Guarantor shall, upon Beneficiary's written demand, perform, or take such steps as are necessary to achieve performance or observance of, such terms and provisions; provided, however, Guarantor's payment and performance shall be governed by and subject to the terms and conditions of the Contract. Further, subject to the terms and conditions of the Contract, including, without limitation, timely notice of an indemnification claim, defense of the claims and limits on Beneficiary's liability, Guarantor shall indemnify and defend Beneficiary against any and all losses, damages, claims, costs, charges, and expenses from Beneficiary's failure to the extent of the limit of Beneficiary's liability set forth in the Contract.



2. The liability of Guarantor hereunder shall not be reduced or discharged by any alteration in the relationship between Beneficiary and Beneficiary which has been consented to by Beneficiary in writing (with or without the knowledge or consent of Guarantor), or by any forbearance or indulgence by Beneficiary towards Beneficiary or Guarantor whether as to payment, time, performance, or otherwise.
3. Guarantor agrees to make any payment and perform any obligation due hereunder upon written demand without set-off or counterclaim, and waives all privileges or rights which it may have as a guarantor, including any right to require Beneficiary to claim payment or to exhaust remedies against Beneficiary or any other person.
4. The obligations of Guarantor hereunder shall continue in full force and effect after expiry or termination of the Contract until all Beneficiary's obligations and liabilities under the Contract have been fully discharged.
5. This Guarantee and the undertakings herein contained shall be binding upon the successors and assigns of Guarantor and shall extend to and inure for the benefit of the successors or permitted assignees of Beneficiary. Beneficiary may assign, charge, or transfer all or any of its right, title and interest in this Guarantee upon such terms as Beneficiary may think fit to any agent for and on behalf of any syndicate of banks and financial institutions providing credit and Guarantee facilities to Beneficiary in connection with the Contract. No person other than Beneficiary or such permitted assignees as described above is intended as a beneficiary of this Guarantee nor shall any such person have any rights hereunder. Guarantor may not otherwise assign or otherwise transfer any of its rights or obligations hereunder.
6. Notwithstanding anything to the contrary above, in the event of any claim under this Guarantee, Guarantor shall be entitled to assert any defense, set-off or counterclaim that Beneficiary could assert had such claim been made directly against any person under the Contract.
7. In the event there is any dispute under the Contract that relates to a sum being claimed under this Guarantee, which dispute is submitted to arbitration, the obligations under this Guarantee shall be suspended pending the outcome of such arbitration and Guarantor further agrees that any award resulting from such arbitration shall be conclusive and binding on it for purposes of determining its obligation under this Guarantee.
8. This Guarantee shall be governed by and construed in accordance with the laws of the State of New York, provided that any provision of such law invalidating any provision of this Guarantee or modifying the intent of the Parties as expressed in the terms of this Guarantee shall not apply.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their respective representatives as of the date first written above.

[Redacted Signature]

[Redacted Signature]

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

Handwritten signature
u

Exhibit 4

SERVICES AGREEMENT

**GE International Operations (Nigeria) Ltd., as Services Provider
-and-
International Engineering & Construction S.A., as Buyer**

Executed September 13, 2014

h
B

SERVICES AGREEMENT

This is a SERVICES AGREEMENT (hereinafter the "Services Agreement"), entered into on and with force and effect as of September 13, 2014 (hereinafter the "Effective Date"), by and between (1) GE International Operations (Nigeria) Ltd., with an office and place of business at Mansard Place, Plot 927/928, Bishop Aboyade Cole Street, Victoria Island, Lagos, Nigeria, as services provider (hereinafter the "Services Provider") and (2) International Engineering & Construction S.A., a corporation organized and existing under the laws of Luxembourg, with an address at Rue de Neudorf 36 L-2222, Luxembourg, Luxembourg, as buyer (hereinafter "Buyer").

Services Provider and Buyer are referred to herein individually as a "Party" and collectively as the "Parties".

RECITALS:

WHEREAS, Services Provider is active in the oil and gas business and has personnel who are competent and knowledgeable about the set-up, installation, commissioning, testing, operation and operator training of LNG production plants; and

WHEREAS Buyer, contemporaneously with this Services Agreement, has entered into a purchase agreement (the "Sales Contract") with Services Provider's Affiliate (as defined below), GE Oil & Gas, Inc., for the purchase of two (2) fully-modular small scale LNG production plants (commonly referred to as SCMR LNG plants) for deployment in Nigeria; and

WHEREAS, Buyer desires to retain Services Provider for the purpose of on-site supervision in Nigeria of the installation, start-up, commissioning and testing of the Plants (as defined below), as well as Buyer-employee training to ensure that the Plants are properly installed and function to their designed and warranted capacities, and Buyer's employees are reasonably capable of operating and maintaining the Plants; and

WHEREAS, Services Provider is prepared and competent to provide the Services (as defined in greater detail below):

NOW, THEREFORE, in consideration of these Recitals, the mutual covenants, promises and agreements contained herein, and other good and valuable consideration (including the guarantee of Services Provider's performance from GE Oil & Gas, Inc.), the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, the Parties agree as follows:

AB

h

1. DEFINITIONS AND INTERPRETATION

- 1.1 Each capitalized term used in this Services Agreement shall have the meaning assigned to it in the Sales Contract, unless defined otherwise herein. For purposes of this Services Agreement, the following terms shall have the following meanings:

"Acceptance Tests" means the tests which have to be passed successfully as one of the conditions to obtain the Taking Over Certificate. They comprise the Start-Up Tests and the Performance Tests. The Acceptance Tests are further specified in the Scope of Supply.

"Additional Employee" shall have the meaning given to it in Clause 5.2.

"Affiliate" with respect to a Party means an entity (including without limitation any individual, corporation, partnership, limited liability company, association or trust) controlling, controlled by or under common control with that Party.

"Base Employees" shall have the meaning given to it in Clause 5.2.

"Buyer" means International Engineering & Construction S.A.

"Buyer Taxes" means all taxes, duties, fees, or other charges of any nature (including, but not limited to, ad valorem, consumption, excise, franchise, gross receipts, import, export, license, property, sales, stamp, storage, transfer, turnover, use, or value-added taxes, and any and all items of withholding, deficiency, penalty, addition to tax, interest, or assessment related thereto), imposed by any governmental authority of any country due to the execution of this Agreement other than Seller Taxes.

"Change" means any modification to the Services, which is agreed in accordance with Clause 25.

"Claim" has the meaning given to it in Clause 18.1.

"Commencement Date" means the date, notified by Buyer to Services Provider indicatively at least ninety (90) Days in advance and to be confirmed at least thirty (30) days in advance of when Buyer requires Services Provider to commence performing the Plant Installation Services.

"Commissioning Services" means the guidance, instruction and supervision to be provided by Services Provider as per Clause 13.

"Confined Space" means a totally or partially closed space, which is neither designed nor intended for human occupancy, but which may occasionally be occupied in order to perform a job; it has limited ways of entry and exit and may pose risks for

AB
W

anyone who enters it because of its design, its atmosphere or the hazardous substances it contains.

"Costs" means all expenses (excluding any losses among which profit and consequential losses that are excluded in Clause 19.3), costs and disbursements, including overhead costs.

"Day" means a calendar day, i.e. any twenty-four (24) hour period beginning and ending at 12:00 midnight in the Country, unless specified as starting from a specific hour.

"Defaulting Party" has the meaning given to it in Clause 26.1.

"Defect" means a failure to meet any warranty set forth in Clause 17.1

"Demobilization" means the removal of Employees from the Site in accordance with the provisions of this Services Agreement.

"Employees" means Services Provider's personnel (or the personnel of its Subcontractor or Affiliates that perform the Services), designated to perform the Services, which shall at least include the Base Employees and the Additional Employees.

"Force Majeure Event" has the meaning given to it in Clause 29.1.

"Force Majeure Report" has the meaning given to it in Clause 29.3.

"Hazardous Materials" means any chemical, substance, material or emission, including H2S gas, that is or may be regulated, governed, listed or controlled pursuant to any international, national, federal, provincial, state or local statute, ordinance, order, directive, regulation, judicial decision or other legal requirement applicable to Site as a toxic substance, hazardous substance, hazardous material, dangerous or hazardous waste, dangerous good, pesticide, radioactive material, regulated substance or any similar classification, or any other chemical, substance, emission or material, including, without limitation, petroleum or petroleum-derived products or by-products, regulated, governed, listed or controlled or as to which liability is imposed on the basis of potential impact to safety, health or the environment pursuant to any legal authority of the United States of America or the Country.

"Mechanical Completion" means that a Plant has been mechanically, electrically and structurally installed on Site and connected, in accordance with the Technical Documentation, but excluding:

- (i) Commissioning; and,
- (ii) any minor items which do not materially affect the operation or safety of the Plant;

AB

u

mechanical completion - Feb 2016

(iii) the introduction of gas, fluids and/or electricity;

it being understood that in the event a Plant cannot be mechanically, electrically and structurally installed on Site and connected, in accordance with the Technical Documentation for a reason beyond Seller's control, Mechanical Completion shall occur five (5) Months after the Delivery Date. *from mobilization after delivery.*

"Mobilization" means placing the Employees on the Site for the performance of the Services.

"Month" means a calendar month according to the Gregorian Calendar beginning at 12:00 midnight on the last Day of the preceding month and ending at 12:00 midnight on the last Day of the current month, unless otherwise specified as from another Day to the Day preceding the same Day of following Month.

"Non-Defaulting Party" has the meaning given to it in Clause 26.1.

"Permitting Services" means the services to be performed by Services Provider to be performed in accordance with Clause 11.4.

"Plant Installation Services" means the guidance, instructions and supervisions to be provided by Services Provider in order to achieve Mechanical Completion, in accordance with Clause 12.1.

"PPE" has the meaning given to it in Clause 22.6.

"Punch List" means the list of the outstanding minor work still to be completed by Service Provider after Taking Over.

"Rates" has the meaning given to it in Clause 7.1.

"Ready For Acceptance Tests Certificate" has the meaning given to it in Clause 14.

"Ready For Commissioning Certificate" has the meaning given to it in Clause 12.1.

"Sales Contract" has the meaning given to it in the Recitals.

"Services" means the technical and operational advice, counsel, training, guidance and supervision from Employees to be provided by Services Provider on Site in Country under and in accordance with this Services Agreement, i.e.:

- (i) the Plant Installation Services;
- (ii) the Commissioning Services;
- (iii) the Testing Services; and

AB
W

(iv) the Training Services;

Services do not include management of Buyer's employees, agents or other contractors directly engaged by Buyer.

"Services Contract Price" has the meaning given to it in Clause 7.1.

"Services Contract Duration" means, in respect of each Plant, a period of thirteen (13) Weeks of Worked Hours.

"Services Provider Representative" has the meaning given to it in Clause 3.1.

"Services Provider Taxes" has the meaning given to it in Clause 3.1.

"Services Schedule" has the meaning given to it in Clause 11.1.

"Standby Time" means time during which Services Provider is 'on hold', i.e. prevented from performing the Services due to any reason not under Services Provider control, i.e. time to obtain Site pass to enter the Site, time to attend EHS Site courses, time spent on local transportation in excess of one (1) hour, time spent due to lack of construction tools and equipment/materials/spares, time spent due to lack of manpower crew in terms of quality and skills, time spent due to lack of utilities to perform the Services, time spent due to delay on milestones at Buyer's responsibility, time spent due to items damaged by Buyer and reordered, time spent in case of any interruption of Site activities not attributable to Services Provider.

"Subcontractor" means any person, firm or company - or group thereof - (other than Services Provider) to whom any part of the Services Agreement has been subcontracted by Services Provider in accordance with the terms of this Services Agreement.

"Taking Over" means the point in time when the conditions set out in Clause 15.1 have been fulfilled, as evidenced by the Taking Over Certificate. In the event Services Provider is prevented from meeting the conditions set out in Clause 15.1 due to reasons beyond Services Provider's control, Taking Over shall mean six (6) months after the Commencement Date.

"Taking Over Certificate" means the certificate issued by Buyer to Seller in accordance with Clause 15.1.

"Testing Services" means the guidance, instructions and supervision to be provided by Services Provider as per Clause 14.

"Time for Completion" means the date by which Taking Over of a Plant should be scheduled to occur, which the Parties agree should be latest six (6) Months after the Commencement Date.

AB
W

"Timesheet" has the meaning given to it in Clause 7.10.

"Training Services" means the guidance, instructions and supervision to be provided by Services Provider as per Clause 11.3.

"Warranty Period" means the period specified as such in Clause 17.2 during which Services Provider is liable to remedy any defect in respect of the Services in accordance with Clause 17.

"Wilful Misconduct" means, on the part of a Party's managerial or senior supervisory personnel, an intentional and/or wrongful act, or an intentional and/or wrongful failure to act, with the intent to cause or inflict damage or injury.

"Working Day" means each day other than a Saturday, or a Sunday or other than a day which is a legal holiday in the United States of America or in the Country.

"Worked Day" means ten (10) Worked Hours.

"Worked Hours" means hours effectively worked by the Employees to perform the Services.

1.2 Interpretation

In this Services Agreement, unless the context otherwise requires or the relevant provision(s) expressly state otherwise:

- (i) the headings to the clauses and the emphasizing are for convenience only and do not affect the interpretation of this Services Agreement;
- (ii) all references to documents or other instruments include all amendments and replacements thereof and supplements thereto;
- (iii) all references to any statute or statutory provision shall include references to any statute or statutory provision which amends, extends, consolidates or replaces the same or which has been amended, extended, consolidated or replaced by the same and shall include any orders, regulations, instruments or other subordinate legislation made under the relevant statute;
- (iv) reference to a 'person' or 'persons' or a 'party' or 'parties' includes individuals, bodies corporate, unincorporated associations and partnership and that person's or those persons' personal representatives, successors and permitted assignees, private or public bodies or individuals;

AB
C

- (v) any obligation on a Party to do anything shall be deemed to include an obligation to procure such thing to be done; any obligation not to do anything shall be deemed to include an obligation not to permit or not to suffer such thing;
- (vi) when a time-limit is determined in Days, it expires at the end of the last Day and it is counted from Day to Day; when it is determined in months, it is counted from Day of Month to Day of Month; if the last Day of either time-limit is a public holiday or does not occur in the Month in which the time-limit expires, the time-limit is extended to the end of the first Working Day that follows;
- (vii) save exceptions agreed to by Buyer, the only measurement units admitted are the internationally used measurement units of the metric system;
- (viii) if any reference is made in this Services Agreement to Incoterms or any standards such as ISO standards, the particular Incoterms or standards will apply only:
 - (a) to the particular item in respect of which they are used; and,
 - (b) to the extent that such application is not conflicting with the content of this Services Agreement;
- (ix) 'including' shall, unless expressly stated otherwise, mean 'including without limitation'; and,
- (x) references to a 'Clause' shall be to a clause of this Services Agreement.

1.3 Communications - Notices

Any notice, instruction, consent, approval, comment, certificate or determination to be given in connection with the Services Agreement must be in writing and shall be validly given if delivered by hand or sent via an internationally recognised courier company to:

- (i) for Seller: GE International Operations (Nigeria) Ltd.,
Mansard Place, Plot 927/928, Bishop Aboyade Cole Street
Victoria Island, Lagos, Nigeria
Attention: Ozim Obasi

With copy to:

GE Oil & Gas, Inc.
1150 Schwab Road
Schertz, Texas, U.S.A. 78132
Attention: Frank Freeman

and

Associate General Counsel – DTS
GE Oil & Gas
4424 West Sam Houston Parkway N.
Houston, Texas, U.S.A. 77041; and,

(ii) for Buyer: International Engineering & Construction S.A.,
Rue de Neudorf 36
L-2222 Luxembourg, Luxembourg
Attention: Managing Director & Legal Manager

With copy to:

Peter Gutowski
Freehill Hogan & Mahar, LLP
80 Pine Street
New York, New York, U.S.A. 10005;

Either Party to the Services Agreement may change its nominated addressee by prior written notice to the other. Any notice shall be effective upon receipt and shall be deemed to have been received at the time of delivery if delivered by hand or courier company.

Day to day communications between the Parties shall be transmitted via e-mail with delivery confirmation to the e-mail address(es) as notified by a Party to the other Party and shall be deemed to have been received on the third Working Day (in the place to which it is sent) following the date of sending if sent by email.

1.4 Language

All correspondence between Services Provider and Buyer shall be in English.

1.5 Inconsistencies

In case of ambiguities or discrepancies between any provisions of this Services Agreement, each Party shall inform the other Party as soon as possible after discovery of such ambiguity or discrepancy, and the Parties shall explain and/or adjust such ambiguities or discrepancies in a manner reasonable to both Parties. In the event of an inability of the Parties to agree on how any such ambiguity or discrepancy shall be resolved, standard contract interpretation principles applicable under the laws of the State of New York will be applied to resolve same.

1.6 No joint venture, partnership or association

The Service Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the Parties or to impose any partnership obligation or liability upon either Party.

AB
W

Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

1.7 Parties to act reasonably

Where reference is made in the Service Agreement to a Party's decision, approval, refusal, consent, agreement, act, etc., such shall not be taken, given or withheld unreasonably or unfairly, unless otherwise expressly stated.

In all cases the Party claiming a breach of Service Agreement or a right to be indemnified for any cost, loss or damage in accordance with the Service Agreement, shall be obliged to make its efforts to mitigate the cost, loss or damage which has occurred or may occur.

2. REQUESTS

Buyer may issue to Services Provider requests which Buyer may consider necessary or helpful to Services Provider in the performance of Services Provider's obligations under the Services Agreement. If any such request impacts price or delivery, it constitutes a Change, and Clause 25 shall apply.

In the event any request of Buyer is transmitted orally, Services Provider may require Buyer to confirm same in writing. Services Provider shall notify Buyer of such requirement without undue delay but in any event within seven (7) Working Days of receipt of Buyer's verbal transmission. The request shall not be effective until written confirmation thereof has been received by Services Provider, and to be effective, such written confirmation by Buyer must be sent within seven (7) Working Days of receipt of Services Provider's request.

Any request from Buyer shall not relieve Services Provider from its responsibility for performing the Services in accordance with the Services Agreement.

3. PROJECT MANAGER

- 3.1** Services Provider shall provide all necessary superintendence during the performance of its obligations under the Services Agreement. Services Provider shall appoint at the latest at Effective Date a competent and authorized representative (the "Services Provider's Representative") approved in writing by Buyer, which approval may at any time be withdrawn, who shall act as Project Manager and devote the necessary time to the superintendence of the same and who shall have the authority to act on Services Provider's behalf under the Services Agreement. Such authorized representative may receive, on behalf of Services Provider, requests from Buyer.

AB
W

After having obtained Buyer's approval, Services Provider shall not, without obtaining Buyer's prior written consent, such consent not to be unreasonably withheld, revoke or replace the Services Provider's Representative.

If Buyer reasonably withdraws its approval of Services Provider's Representative, Services Provider shall, as soon as is practicable after receiving written notice and explanation of such withdrawal, remove the representative from the execution of the Agreement and shall replace him by another representative approved by Buyer. In case of removal of Services Provider's Representatives in accordance with this paragraph, such representative shall thereafter not be employed on the Services Agreement in any capacity unless approved by Buyer.

- 3.2 Services Provider, with prior written notification, has the right to replace the individual Employees by qualified replacements, however at Services Provider's Cost, it being understood that Service Provider shall ensure adequate overlap, knowledge transfer and continuity of the Services and same shall be at no Cost for Buyer.

4. ASSIGNMENT AND SUBCONTRACTING

4.1 Assignment by Buyer

Buyer shall not assign the Services Agreement or any part thereof or any benefit, obligation or interest therein or thereunder, to any third party, without the prior written consent of Services Provider. Notwithstanding the foregoing, Buyer shall be entitled, without Services Provider's consent:

- (i) to assign the Services Agreement or any part thereof or any benefit, obligation or interest therein or thereunder, to any Affiliate but provided (a) such Affiliate has been approved by Services Provider as having the financial capability to perform the Services Agreement obligations, or (b) Buyer shall remain liable for all Buyer's obligations under this Services Agreement that are assigned to such Buyer's Affiliate; and,
- (ii) to assign, charge or otherwise encumber the Services Agreement or any rights or benefits arising thereunder or therefrom by way of collateral in favor of Lenders. Any such assignment, charge or encumbrance may include the right to make second or subsequent assignments, charges or encumbrances and to enforce the same by way of sale or otherwise subject to the terms that will be reasonably agreed by Services Provider.

Services Provider shall provide Buyer with such assistance as Buyer may from time to time reasonably request in relation to Buyer's financing arrangements with actual or potential Lenders and shall co-operate fully with Buyer to that end.

AB
E

For the avoidance of doubt, it is expressly confirmed that all rights of Buyer under or in relation to the Services Agreement may be exercised by and shall inure for the benefit of its successor in title and assignees.

4.2 Sub-contracting

Nothing in this Services Agreement shall restrict Services Provider from subcontracting portions of its work, provided that Services Provider shall remain responsible to Buyer for performance of subcontracted scope and that Services Provider shall only subcontract parts of the Services Agreement to Subcontractors that:

- (i) exist validly and are in good standing under the laws of their respective country or place of incorporation; and,
- (ii) are fully experienced and properly licensed, equipped, competent and qualified to perform all aspects of the subcontracted work so as to ensure that said work will be in accordance with the provisions of this Agreement.

Any such subcontracting shall neither relieve Services Provider from any liability or obligation under the Services Agreement, nor result in a legal relationship being created between Buyer and the Subcontractor concerned. The Services Provider shall remain responsible for the acts, defaults and neglects of any Subcontractor, its agents, servants or workmen as fully as if they were the acts, defaults or neglects of Services Provider.

Services Provider shall in any event require the Subcontractor:

- (i) to respect the provisions of this Services Agreement (to the extent applicable); and,
- (ii) not to assign or to subcontract any of the subcontracted work to any third party without providing notice and requiring consent from Services Provider.

This Services Agreement shall not create any liability, in contract, tort, warranty, strict liability, or any other legal theory, from Buyer in respect of the Subcontractor.

4.3 Assignment by Services Provider

Services Provider may assign its rights and obligations under the Services Agreement, in part or in whole, to one or more of its Affiliates, without Buyer's consent and upon written notice to Buyer setting forth the effective date of such assignment; provided that in the event of any such assignment, Services Provider shall nevertheless remain fully responsible to Buyer for the full, due and complete performance and fulfillment of all aspects of the Services Agreement. Services Provider may novate its rights and obligations under the Services Agreement, in part or in whole, only with Buyer's written consent, which Buyer may withhold or grant at its absolute discretion. Buyer agrees to execute such documents as may be reasonably necessary to effect the assignment, or

AB
w

novation (if approved). Services Provider shall have the right at all times to assign to third parties any and all credits under the Services Agreement subject to prior notification in writing to Buyer.

5. SCOPE

- 5.1 As from the Commencement Date, Services Provider shall provide the Services to Buyer on the terms and conditions set out herein. Any additional services that are not Services included in the Services Contract Price shall be subject to a separate contract and separate terms and conditions, including a separate liability regime. The Services shall be based on Services Provider's current engineering, manufacturing, installation and operation practices as applicable to the Buyer's Plants.
- 5.2 For the performance of the Services, Service Provider shall provide the following Employees:
- (i) a process specialist, an electrical specialist and a mechanical specialist (the "Base Employees") for the Services Contract Duration; and,
 - (ii) in addition, and if so requested in writing by Buyer by sixty (60) Days' advance written notice, up to six (6) Employees (the "Additional Employees(s)") to perform the Services, up to Taking Over, of which one (1) employee shall be available to remain on Site for a nine (9) Month period commencing one (1) Month after the Commencement Date, subject to Clauses 3.2, 7.9 & 22.4 and rights to holidays and vacations of such Employee or Employees.

6. TIME FOR COMPLETION

6.1 Effective Date

After the Effective Date, Services Provider shall proceed with the performance of the Services Agreement regularly and diligently in accordance with the terms herein.

6.2 Progress - Delay

Services Provider shall perform the Services Agreement in accordance with meeting the Time for Completion. If, at any time, the actual progress is not consistent with meeting the Time for Completion, or as from the moment Services Provider's Employees providing the Services become aware of the fact that the Time for Completion may not be met, Services Provider shall promptly inform Buyer and shall produce, within ten (10) Working Days, a report identifying:

- (i) the likely period of delay;
- (ii) the event causing the delay;

AB
W

- (iii) the impact which such event has had or in the opinion of Services Provider is likely to have or will have on the ability to achieve the Time for Completion;
- (iv) the steps which Services Provider has taken, is taking and will take to mitigate the adverse consequences of such event;
- (v) further particulars of the consequences of the delay as Services Provider becomes aware; and
- (vi) any recommendations that Services Provider has for Buyer to consider undertaking to minimize any anticipated delay.

Services Provider shall, in consultation with Buyer, use commercially reasonable efforts to minimize or remove the actual or anticipated delay and any consequences thereof. If the Buyer can demonstrate that the steps proposed by Services Provider fail to adequately address the anticipated delay in meeting the Time for Completion, then Services Provider shall increase its efforts in order to remove or minimize the adverse effect. In case of delay in the Time for Completion due to Buyer, the Time for Completion shall be extended accordingly.

6.3 Delays – Remedies

If the Time for Completion is delayed for reasons and to the extent attributable to Services Provider, in addition to Buyer's right to recover direct damages from Services Provider in accordance with the Service Agreement, Buyer shall have the right to terminate the Services Agreement, in which case Buyer will have no further obligation to Services Provider.

7. PAYMENT

7.1 The total price (the "Services Contract Price") for the Services to be provided under this Services Agreement is:

- (i) \$500,000.00 USD (Five Hundred Thousand United States Dollars) per Plant for the Services Contract Duration for the Base Employees; plus,
- (ii) for the Additional Employee(s), charged at the rates (the "Rates") set out in Clauses 7.5.

Payment(s) to be made hereunder shall be in United States Dollars, all payments to be made by wire transfer to an account nominated by Services Provider.

7.2 Services Provider shall be entitled to invoice for the cumulative Worked Hours performed before each of the following key events on a per Plant basis:

AB
W

- (i) conclusion of Mechanical Completion of the Plant;
- (ii) conclusion of Commissioning;
- (iii) conclusion of Acceptance Tests;
- (iv) at Taking Over; and,
- (v) sixty (60) Days after Taking Over;

it being understood that in respect of the portion of the Services Contract Price for the Base Employees, Services Provider shall be entitled to invoice twenty percent (20%) of such portion of the Services Contract Price for the Base Employees when each of the above mentioned milestones is reached.

7.3 In addition to other remedies under this Services Agreement, each Party shall pay interest to the other Party at the rate of one percent (1%) per month (or any fraction thereof), not to exceed the lesser of:

- (i) twelve percent (12%) per annum; or,
- (ii) the maximum amount permitted by applicable law if less than twelve percent (12%);

on all amounts not timely paid in accordance with this Services Agreement.

7.4 Services Provider shall pay each Subcontractor, save for disputes between Services Provider and any Subcontractor, the amount to which Subcontractor is entitled in accordance with the terms and conditions of their agreement. If a Subcontractor files a direct claim against Buyer for reason of non-payment by Services Provider, Buyer shall promptly notify Seller in writing so that Services Provider shall post bond, pay the Subcontractor or otherwise resolve such claim with its Subcontractor and Services Provider shall indemnify, defend and hold Buyer harmless from any of Buyer's Costs relating to such action, claim and/or judgment.

7.5 The Services for the Additional Employees shall be charged at the following Rates:

- (i) \$1,600.00 USD (One Thousand Six Hundred United States Dollars) per Worked Day on a Working Day; and,
- (ii) \$2,000.00 USD (Two Thousand United States Dollars) per Worked Day on Day other than a Working Day;

in each case prorated for the Worked Hours per Day. The above Rates shall remain valid until Taking Over of the Plants.

AB
E

7.6 Intentionally omitted.

7.7 The Services Contract Price and the Rates include:

- (i) provision of the Services;
- (ii) initial Mobilization and final Demobilization of the Employees;
- (iii) training presentation materials required to perform the Training Services; and,
- (iv) the tools, instruments and technical documentation needed to perform the Services, plus any transport expenses for the initial Mobilization and final Demobilization of same;

but the following shall not be included in the Rates:

- (a) classroom(s) and other training materials to perform the Training Services;
- (b) board & lodging; and,
- (c) air travel expenses (except for the initial Mobilization and final Demobilization of the Employees), which shall be charged to Buyer at cost, it being understood that the Employees shall only have right to business class air tickets for intercontinental traveling;
- (d) travel time, which shall be charged at the Working Day Rate, up to a maximum of eight (8) hours per Working Day for each Working Day of travel.

7.8 In the event of long periods of Standby Time, Buyer may decide at its discretion to keep the Employees on Site, or alternatively to require Services Provider to effect the Demobilization of the Employees, in which case Buyer will be charged for their traveling and any other Demobilization and remobilization expenses. Upon written notification from Buyer to Services Provider, Services Provider shall effect (re-)Mobilization of the Employees and the Employees shall return to the Site. Worked Hours for Mobilization/Demobilization (except for the initial Mobilization/Demobilization, which is included in the Services Contract Price and the Rates) shall count and be charged to Buyer at the Rate for a Working Day, prorated for Worked Hours.

7.9 The length of time the Employees shall remain on Site shall comply with the law of the Country and the Site, and with the agreed Service Schedule. Unless agreed otherwise between the Parties, individual Employees shall be entitled to return home for twenty-one (21) Days of rest, travel time included, after a period of forty-two (42) Days on Site.

7.10 The invoices to be issued by Services Provider in respect of the Services performed by the Additional Employee(s), shall be calculated upon the Worked Hours multiplied by the applicable Rate. For verification and acceptance of such Worked Hours, Services

B
W

Provider will issue to Buyer a document (the "Time Sheet") reporting the Worked Hours in sufficient detail to enable Buyer to verify same. If Buyer agrees with Services Provider's reporting of the Worked Hours as set out in the Time Sheet, Buyer shall sign the Time Sheet for acceptance. If Buyer does not agree with the Time Sheet, Buyer shall indicate any objection Buyer may have on the Time Sheet. Services Provider will not accept any objection related to Worked Hours once the Time Sheet has been signed by Buyer.

7.11 Any outstanding Punch List items shall not prevent Buyer's payment obligations.

8. TAXES AND DUTIES

8.1 Services Provider shall be responsible for, and shall pay directly, any and all corporate and personal income taxes imposed on Services Provider and/or its employees by the legislation of the Country, and any other local governmental taxing authority, related to the performance or execution of this Services Agreement (the "Services Provider Taxes").

8.2 If Buyer deducts or withholds Services Provider Taxes from the Services Contract Price, for each deducted or withheld amount of Services Provider Taxes, Buyer shall provide Services Provider, within one (1) Month from payment, with the official receipt issued by the appropriate governmental authority to which Services Provider Taxes have been paid. If Buyer fails to provide the applicable official receipt within the specified time, Buyer shall refund to Services Provider an amount equal to the amount withheld. Buyer shall be responsible for, and shall pay directly when due and payable, any and all Buyer Taxes and all payments due and payable by Buyer to Services Provider under this Services Agreement shall be made in the full amount of the Service Contract Price.

8.3 If Buyer fails to comply with the legislation of the country of the Site, Buyer will indemnify Services Provider for any cost, risk and responsibility including, but not limited to, fees, taxes, duties, charges, penalties, legal expenses, and interest which Services Provider might suffer as a result of Buyer's breach in compliance.

8.4 If the law of the Country, or the law of the country of incorporation of Buyer, requires the Services Agreement to be subject to stamp duty, fee, or registration with any local authority, Buyer will be responsible for the required formalities and bear the related costs. Buyer shall return to Services Provider a copy of the registration certificate or a registered copy of the Services Agreement within ten (10) Days from the due date provided by the above-mentioned laws to apply for the fee, duty or registration.

8.5 If Buyer benefits from any tax, fee or duty exemption applicable to Services Provider and its sub-contractors, Buyer agrees to provide Services Provider, without charge, before the execution of the Services Agreement with documentation acceptable to the taxing or customs authorities supporting the tax, fee or duty exemption and with instructions for Services Provider and its sub-contractors about the procedure to apply for the exemption.

AB
W

- 8.6 Should Services Provider be refused to have the right to apply for the tax, fee or duty exemption, or should Buyer not send Services Provider such documentation, Services Provider shall invoice and Buyer shall pay forthwith unconditionally the applicable tax, fee or duty.
- 8.7 Buyer will promptly notify in writing Services Provider about the revocation, expiry or any other change to any exemption. If such notification is late or does not occur, Buyer shall compensate Services Provider for any tax, duty, fee and fine, penalties, interest and court or administrative costs assessed against or incurred by Services Provider.
- 8.8 The Services Contract Price does not include any VAT, GST and other sales, turnover, consumption or service taxes directly levied on the sale of the Services. Therefore if any such taxes or similar imposts are applied and payable by Services Provider, they will be added to the Services Contract Price.

9. TITLE

- 9.1 Title to the Services shall pass to Buyer as performed.

10. BUYER'S OBLIGATIONS

10.1 Access to the Site

Access to the Site, including the use of Buyer's rights of way and easements, shall be granted to Services Provider by Buyer and for the sole purpose of performing the Services.

10.2 Access not exclusive

The access to and possession of the Site shall not be exclusive to Services Provider but only such as shall enable it to perform the Services.

10.3 Personnel for Acceptance Tests

When the Plant is ready for Acceptance Testing, Buyer will provide the normal operating personnel under the technical direction and supervision of Services Provider. For the avoidance of doubt, Services Provider's Employees shall never be deemed to be Buyer's employees, and vice versa.

10.4 Electricity, water and gas

AB
W

Buyer shall be responsible at its own costs for the provision of all utilities, including but not limited to electricity, gas, water (including drinking water) required to perform the Services, and the Acceptance Tests.

Buyer shall also be responsible for and bear the costs of all arrangements for connection, metering and distribution.

10.5 At Site Buyer will render all necessary assistance to the Employees, including the following matters at Buyer's Cost (unless expressly specified otherwise):

- (i) grant reasonable access to Buyer's warehousing and shop facilities to the Employees;
- (ii) make available all drawings, specifications, technical information and manuals available to Buyer as provided by Seller;
- (iii) before the Commencement Date, inform the Employees about any risk to safety and health, and about the safety regulations and safety procedures in force at the Site;
- (iv) supply any required safety equipment per Clause 22.6.
- (v) advise the Employees of the safety and accident prevention regulations in force on Site;
- (vi) in case of illness or accidents of any kind, even outside working hours, Buyer shall ensure that the Employees receive necessary medical treatment in accordance with Clause 22.2. In the event the medical prognosis of any Employee is longer than three (3) Days, Services Provider shall have the right to replace the individual Employee;
- (vii) provide all required parts and miscellaneous materials (e.g., bolts, nuts, gaskets, steel plates, consumables, lube oil, hydraulic oil, etc.) to perform the Services, except for those specified in the Services Agreement that shall be provided by Services Providers as part of the Services;
- (viii) ensure availability of process gas when required;
- (ix) supply adequate lighting for nightshift work if any;
- (x) provide heavy lift equipment (crane, rigger and handling/lifting), standard tools, hand and power tools, measuring instruments, oxy-acetylene welding machines, scaffolding, if and when required;
- (xi) provide access to lay-down space on Site next to the equipment upon which the Services will be performed;

33
3

- (xii) provide climate-controlled and secure office space on Site, equipped with a meeting room, sufficient toilet facilities and changing rooms, copy machines, office supplies and equipment, lockable storage for Employee's belongings and the following telecommunications: international telephone lines (all related Costs to be at Services Provider's charge), fax lines, internet access (minimum requirements: 512 kbps down and 256 kbps up through dedicated (non-shared) line to consult Services Provider's archive for technical documentation and to be in daily contact with headquarters' technical assistance);
- (xiii) assist, if and when required, with the procurement of all necessary visas, work permits and travel documents for the Employees as required by the law of the Country, it being understood that Services Provider shall at all times remain responsible for such visas, work permits and travel documents;
- (xiv) inform Services Provider about Site pass procedures;
- (xv) inform Services Provider about EHS training required to operate at Site, if any, and relevant timing needed to attend such training;
- (xvi) arrange for Services Provider to be covered under the Site property insurance policy and obtain from insurers waiver of subrogation towards the Services Provider;
- (xvii) provide adequate firefighting equipment and services;
- (xviii) provide Site security, meaning the act of safeguarding the Site against sabotage, theft, arson, or any other dishonest or criminal act by physical means; such as guards, fencing, and lighting, to safeguard all of Services Provider's tools, consumables, equipment and parts;
- (xix) ensure availability of any special tools delivered together with the Plants at the time of their delivery;
- (xx) provide adequate means of transport for the Employees for journeys between the Site and the Employees' living quarters;
- (xxi) provide any labor, including labor supervision and equipment operators, not included in Services Provider's scope of Services, as well any additional labor that may be required in connection with the Services and is not included in the scope of the Services; and,
- (xxii) provide board and living, as well as local transport.



11. SERVICES PROVIDERS' OBLIGATIONS

11.1 Services Schedule

Services Provider shall coordinate with Seller and Buyer the anticipated arrival of the Plants or, in the case of partial deliveries, any portions/modules of a Plant, so as to ensure that the requisite Employees are available and on Site, as necessary, to ensure the timely provision of the Services. Within ten (10) Days of Buyer's issuance of the thirty (30) Day Commencement Date notice, Services Provider, in coordination with Seller, shall provide a proposed schedule for the attendance of the Employees (the "Services Schedule"). The Services Schedule shall include an identification of the individuals who shall perform the Services, designation of which Services each will perform and an estimate of the amount of time each will be on Site. Within five (5) Days of Buyer's receipt of the Services Schedule, Buyer shall respond with any comments or objections, failing which the Services Schedule shall be deemed accepted. In the event Buyer has any objection or comments, the Parties shall cooperate to resolve any such issues so as to reach consensus on a revised Services Schedule.

The first Services Schedule shall cover the time period for the Month in which it is issued and the Month immediately following. Thereafter, on or before the first day of each and every ensuing Month, following the Month of receipt of the first Services Schedule, Services Provider shall issue a Services Schedule covering the time period for the next Month, the contents and Buyer's response thereto to be in accordance with the paragraph above. The Parties shall follow this Services Schedule protocol until the Taking Over Certificate is issued for each Plant.

11.2 No liability for review, comments or approval by or on behalf of Buyer.

Services Provider acknowledges that it must rely entirely on its own skill and judgment in the performance of its duties and obligations under this Services Agreement. Accordingly, the duties, obligations and liabilities of Services Provider shall not be released, diminished or in any other way affected by any comment or approval, made or given, by or on behalf of Buyer.

11.3 Training of Buyer's personnel

As part of the Services, the Seller shall arrange to provide a comprehensive and adequate training program for Buyer's staff so that they can operate, maintain and service the Plants safely and efficiently.

The training shall cover all systems of the Plant and shall be specific for this Plant.

Services Provider shall present a specification and class room training courses intended for Buyer's operational personnel. Details of the training package and program shall be subject to comment of Buyer.

The training shall commence early enough to avoid interference with the Commissioning and Acceptance Tests activities and also to enable the staff to fully follow and understand

AB
W

the Commissioning activities and to familiarize themselves with all aspects of the Plant, including but not limited to, its operation and functionality, its maintenance and repair requirements, emergency repair and/or shut down requirements and re-start protocols.

Buyer shall ensure that adequate supply of training manuals and (preliminary) operation and maintenance manuals are made available early enough prior to the commencement of training. An electronic copy of the course(s) shall also be provided.

The training may be conducted at the Site or at Buyer's premises, at Buyer's option. However any training at manufacturers' works or other similar utilities which is considered to be necessary shall be added to the Services Contract Price, including travel and lodging expenses.

Seller's proposal for training shall be reviewed by Buyer.

All training courses shall be organized in English.

11.4 Permitting Services

If requested in writing by Buyer and subject to a separate contract in accordance with the last sentence of this Clause, Services Provider undertakes to provide reasonable commercial assistance to Buyer in respect to Buyer's procurement of any authorization, license, permits, or permission from the respective authorities in the Country with respect to the construction, installation, commission, testing and operation of the Plants. Services Provider shall have no liability for Services Provider's assistance or Buyer's failure to procure any such authorization, license, permits, or permission from the respective authorities in the Country with respect to the construction, installation, commission, testing and operation of the Plants. Permitting Services shall be charged at the following rates:

(i) \$350.00 USD (three hundred and fifty United States Dollars) for Worked Hours on a Weekday;

(ii) \$475.00 USD (four hundred and seventy-five United States Dollars for Worked Hours on a Weekend Day;

in each case prorated for the Worked Hours per Day. The above Rates shall remain valid until May 30, 2016. Permitting Services shall be subject to a separate contract on mutually agreed separate terms and conditions (other than those with respect to the rates valid until May 30, 2016), including a separate liability regime.

12. PLANT INSTALLATION SERVICES

12.1 Mechanical Completion

Services Provider shall provide on Site supervision and guidance and instruction as to the proper and safe installation of the Plants, including the mechanical, electrical and structural connections of all component and modular sections of the Plants, and shall

ABJ
W

issue all necessary notices regarding Mechanical Completion such that the installation of each Plant is in accordance with the Technical Documentation.

As soon as the Plants have thus achieved Mechanical Completion Buyer shall notify same to Services Provider in writing, and request a "Ready For Commissioning Certificate".

12.2 Issuance of Ready For Commissioning Certificate

Services Provider shall, within seven (7) Days after receipt of Buyer's notice under Clause 12.1, either issue the Ready For Commissioning Certificate or notify Buyer in writing of any circumstances preventing the issuance of the Ready For commissioning Certificate.

If Services Provider notifies Buyer of any circumstances preventing the issuance of the Ready For Commissioning Certificate, the Parties shall work together to remedy same and shall repeat the procedure described in this Clause, until issuance of the Ready For Commissioning Certificate by Services Provider.

13. COMMISSIONING

13.1 Readiness for Commissioning

As soon as the Ready For Commissioning Certificate has been issued, Buyer shall proceed with the Commissioning of the Plants, under the guidance, instructions and supervision of Services Provider.

13.2 Utilities and facilities for Commissioning

Any and all instruments and/or testing equipment necessary to perform the Commissioning Services shall be supplied by Services Provider.

14. READY FOR ACCEPTANCE TESTS

As soon as all works and testing in respect of Commissioning of the Plants are completed and the Plants, in the opinion of Services Provider, are ready for Acceptance Tests, Services Provider shall so notify Buyer by means of a "Ready For Acceptance Tests Certificate".

14.1 Acceptance Tests

Following the issuance and delivery of the Ready For Acceptance Tests Certificate, Buyer, under the guidance and supervision of Services Provider, shall proceed with the

W AB

Acceptance Tests of the Plant and shall do so as soon as is practicable. The Acceptance Tests comprise the Start-Up Tests and the Performance Tests.

If the schedule for any test is adjusted after Services Provider has provided Buyer with the final schedule, then Services Provider shall advise Buyer of the adjustments made, not less than one (1) Day prior to the commencement of any such test.

The Acceptance Tests shall be carried out by Buyer, under the guidance and supervision of Services Provider, and in accordance with the procedures agreed upon in Appendix A of the Sales Contract and the Inspection Test Plan agreed between Seller and Buyer.

14.2 Instruments and/or testing equipment for Acceptance Tests

Any and all instruments and/or testing equipment necessary to perform the Commissioning Services shall be supplied by Services Provider.

14.3 Performance Tests

Once Services Provider determines that all Start Up Tests have been successfully completed, the Plant will undergo the Performance Tests.

14.4 Tests results - Test certificate

Services Provider shall submit to Buyer a test report (including the test results) of each and every Acceptance Tests within five (5) Days of their respective execution.

When, in the opinion of Services Provider, a Plant has passed successfully any one of the Acceptance Tests, Services Provider shall ask Buyer to issue the Test Certificates in relation thereto.

Buyer shall have a reasonable period of time, not to exceed five (5) Working Days, to review and comment on the supporting data and issue or refuse to issue a Test Certificate; after such five (5) Working Days the Plant shall be deemed to have passed and Buyer shall issue the Test Certificates.

14.5 Use by Buyer before Taking Over

Buyer shall not be entitled to use the Plant for commercial purposes before Taking Over.

15. TAKING OVER

15.1 As soon as the following conditions are fulfilled in respect of a Plant, Buyer shall issue to Services Provider the Taking Over Certificate for such Plant:

B
W

- (i) Services Provider has complied with all its obligations under the Services Agreement;
- (ii) the Plant has been Commissioned (other than with respect to the items on the Punch List) and the Services have been performed in accordance with the Service Agreement; and
- (iii) the Acceptance Tests have been passed and Services Provider has issued all the Test Certificates, and the Plant has achieved all of the Guaranteed Performances or has otherwise met the criteria for Taking Over as per the Sales Contract.

The granting of the Taking Over Certificate shall not restrict Services Provider's obligations under the Services Agreement.

15.2 Conditions applicable after Taking Over

The provisions of the Services Agreement, to the extent applicable, shall apply:

- (i) to the works and/or supplies to solve the Punch List items; and
- (ii) to the works and/or supplies to remedy defects in the Services; and,

Services Provider shall make commercially reasonable efforts in order not to obstruct or disturb the normal operation and/or maintenance of the Plant.

15.3 Right of Access

For the sole purpose of (and to the extent necessary for) performing the works and/or supplies in related to solving the Punch List items, the remedying of a Defect, Services Provider may request Buyer (who shall not unreasonably withhold its consent) to have the right of access to all parts of the Plant. Such access shall only be granted during normal working hours and will be limited to the duly authorized representatives of Services Provider.

16. COMPLIANCE WITH LAWS, CODES AND STANDARDS

16.1 The Services Contract Price is based on Services Provider's:

- (i) design criteria, manufacturing processes and procedures and quality assurance program;
- (ii) those portions of industry specifications, codes and standards in effect as of the date of the Services Agreement which are applicable to the Services and/or the Plants;

33
W

- (iii) the United States Federal, State and local laws, the local laws of the place of incorporation of Services Provider and any regulations or rules in effect on the Effective Date; and
 - (iv) the mutually agreed upon specifications contained in Appendix A to the Sales Contract.
- 16.2 Buyer agrees not to re-export United States origin goods supplied by Service Provider under this Service Agreement contrary to the export control laws of the United States and European Union, as may be amended.
- 16.3 In the event of any change to any applicable law, regulation, rule, trade control, governmental decree, standard or otherwise, at any time after the Effective Date of this Services Agreement which shall have the effect of:
 - (i) placing Services Provider in breach of such Law when executing the Services Agreement; and,
 - (ii) makes Services Provider's execution of its obligations illegal, which cannot be remedied by a mutually agreed change order;

Services Provider shall have the right to withdraw its proposal or terminate the Services Agreement without any liability.

- 16.4 Notwithstanding any other provisions herein, Buyer shall be responsible for timely obtaining of any required authorization, such as an export license, import license, foreign exchange permit, work permit or any other governmental authorization, even though any such authorization may be applied for by Services Provider, except insofar as such authorization(s) relates to the individuals who Services Provider will provide to perform the Services. Buyer and Services Provider shall provide each other reasonable assistance in obtaining required authorizations.

17. WARRANTY

- 17.1 Services Provider warrants to Buyer that the Services shall be performed in a competent, diligent manner in accordance with industry standards of similarly situated equipment and service providers in Services Provider's industry and any mutually agreed specifications.
- 17.2 Unless otherwise stated in the Services Agreement, the Warranty Period for the Services shall be one (1) year after the performance of the Service.
- 17.3 If a Defect appears within the Warranty Period, Buyer shall promptly notify Services Provider in writing and promptly make the Plant available for correction/inspection within a commercially reasonable time period thereafter. Services Provider, at its

AB
W

expense, shall thereafter correct any warranty defect by re-performing the defective Services. Services Provider shall not be responsible for removal or replacement of systems, structures or other parts of Buyer's facility to grant Services Provider access to the Plants, provided that access through or within the Plants shall be for Services Provider's account. Any re-performance by Services Provider hereunder shall extend the applicable Warranty Period on such re-performed component of the Service for a further period of twelve (12) Months, provided that in no event shall the Warranty Period extend beyond twenty-four (24) Months from the performance of the Service giving rise to the original warranty claim.

17.4 All decontamination work necessary for the correction of Defects shall be performed by Buyer at Services Provider's expense; provided that should a Defect not have occurred, the expense will be Buyer's.

17.5 Seller does not warrant the Services or any repaired or replacement parts against normal wear and tear including that due to unique environmental conditions or normal operations, excessive operation at peak capability (unless peak capability is warranted to be achievable in the ordinary course of operations), excessive starting, type of fuel, detrimental air inlet conditions or erosion, corrosion or material deposits from fluids or which has been involved in an accident. The warranties and remedies set forth herein are further conditioned upon:

- (i) the proper storage (to the extent it is the responsibility of Buyer or its Affiliates and its or their officers, servants, agents, employees, sub-contractors, suppliers, and/or assigns, including transportation, staging or storage, or shipping service providers), installation, operation, and maintenance of the Plants and Parts, and conformance with the operation instruction and installation ('TPI') manuals (including revisions thereto) provided by Seller; and,
- (ii) repair or modification pursuant to Services Provider's instructions or approval.

Services Provider does not warrant any equipment or services of others designated by Buyer where such equipment or services are not normally supplied by Services Provider.

17.6 If Services Provider fails or is unable to remedy a Defect within a reasonable time:

- (i) the Parties will negotiate an equitable compensation for Buyer, but in case the Parties do not agree on such an equitable compensation within thirty (30) Days, Buyer has the right to recover against Services Provider for Buyer's direct damages in accordance with the Services Agreement incurred as a result of Services Provider's failure or inability to remedy the Defect; and,
- (ii) in the event that due to Services Provider's failure or inability to remedy the Defect Buyer is deprived of a substantial part of the benefit of the Plant, Buyer may terminate the Services Agreement in accordance with Clause 26.1.

AB
u

17.7 THE PRECEDING PARAGRAPHS OF THIS CLAUSE 17 SET FORTH THE EXCLUSIVE REMEDIES FOR ALL CLAIMS BASED ON FAILURE OF OR DEFECT IN THE SERVICES PROVIDED UNDER THE SERVICES AGREEMENT, WHETHER THE FAILURE OR DEFECT ARISES BEFORE OR DURING THE WARRANTY PERIOD AND WHETHER A CLAIM, HOWEVER INSTITUTED, IS BASED ON CONTRACT, INDEMNITY, WARRANTY, TORT/EXTRA-CONTRACTUAL LIABILITY (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE. THE FOREGOING WARRANTIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS AND GUARANTEES WHETHER WRITTEN, ORAL, IMPLIED OR STATUTORY. NO IMPLIED STATUTORY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY.

18. INTELLECTUAL PROPERTY

18.1 Services Provider agrees to indemnify and hold harmless Buyer from any claim (a "Claim") of any third party that the Services furnished hereunder infringes any patent of the United States or national patent resulting from the grant by the European Patent Office upon termination of any opposition procedure, provided that:

- (a) Buyer promptly notifies Services Provider in writing of any such Claim about which it becomes aware;
- (b) Buyer makes no admission of liability and does not take any position adverse to Services Provider regarding such Claim and gives Services Provider sole authority, at Services Provider's expense, to direct and control all defense, settlement and compromise negotiations; and,
- (c) Buyer provides Services Provider with full disclosure and assistance that may be reasonably required to defend any such Claim, all costs incurred for same to be paid by Services Provider.

18.2 Services Provider shall have no obligation or liability with respect to any Claim based upon:

- (a) any Services that have been altered, modified, or revised by Buyer without Services Provider's authorization or direction;
- (b) the combination, operation, or use of any Services with other products or services when such combination is part of any allegedly infringing subject matter;
- (c) failure of Buyer to implement any update provided by Services Provider that would have prevented the Claim; or,

AB
W

- (d) unauthorized use of the Services, including, without limitation, a breach of the provisions of the Services Agreement.

18.3 Should any Services, or any portion thereof, become the subject of a Claim, Services Provider may at its option:

- (a) procure for Buyer the right to continue using the Services, or portion thereof;
- (b) modify or replace the Services in whole or in part to make them non-infringing; or,
- (c) failing (a) or (b), refund any fees received by Services Provider attributable to the infringing Service.

18.4 The foregoing states Services Provider's entire liability for indemnifications for intellectual property rights infringement, for Services. Buyer waives any moral rights.

18.5 Each Party shall retain ownership of all Confidential Information and intellectual property it had prior to the Services Agreement. All intellectual property conceived, created, or provided by Services Provider, whether alone or with any contribution from Buyer or its personnel, shall be owned exclusively by Services Provider. For example, Services Provider shall own exclusively all rights in ideas, inventions, works of authorship including derivative works, strategies, plans, data, and other intellectual property created in or resulting from the Services Agreement, including but not limited to all patent rights, copyrights, moral rights, rights in proprietary information, database rights, trademark rights and other intellectual property rights. To the extent that Buyer may acquire any right or interest therein, Buyer irrevocably assigns all such right and interest exclusively to Services Provider and agrees to execute assignments and other documentation as necessary to achieve that result. Nothing in this Services Agreement shall be deemed to grant a license directly or by implication, estoppel, or otherwise, to any such intellectual property, although the Parties may provide for such a license in a separate written agreement.

19. INDEMNITY AND LIMITATION OF LIABILITY


19.1 Services Provider hereby agrees to indemnify and hold harmless Buyer from any physical damage to property of third parties or injury to persons, including death, to the extent resulting directly from the negligence of Services Provider or its officers, servants, agents, employees, sub-contractors and/or assigns while engaged in activities under or in furtherance of this Services Agreement. Buyer shall likewise indemnify and hold harmless Services Provider from any physical damage to property of third parties or injury to persons, including death, to the extent resulting directly from the negligence of Buyer, its officers, servants, agents, employees, sub-contractors and or assigns, while engaged in activities under or in furtherance of this Services Agreement. In the event such damage or injury is caused by the joint or concurrent negligence of Services

13
w

Provider and Buyer, the loss shall be borne by each Party in proportion to its respective negligence. For purposes of Services Provider's indemnity responsibility under this Clause 19.1, no portion of Buyer's equipment, facility or the Site is considered third party property; provided that Services Provider shall indemnify Buyer for physical damage:

- (a) to the Plant up to twenty five million dollars (\$25,000,000.00); and,
- (b) to Buyer's equipment, facility or the Site up to ten million dollars (\$10,000,000.00);

each only to the extent resulting directly from the negligence of Services Provider or its officers, servants, agents, employees, Sub-contractors and/or assigns while engaged in activities under or in furtherance of this Services Agreement, above such amounts Buyer shall release, indemnify and hold Services Provider harmless from and against all claims and damages REGARDLESS OF WHETHER SERVICE PROVIDER'S NEGLIGENCE IN ANY FORM CAUSES DAMAGES IN EXCESS OF SAID AMOUNTS.

- 19.2 THE TOTAL LIABILITY OF SERVICES PROVIDER FOR ALL CLAIMS OF ANY KIND, WHETHER IN CONTRACT, WARRANTY, INDEMNITY, TORT/EXTRA-CONTRACTUAL LIABILITY (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR OTHERWISE, ARISING OUT OF OR RELATING TO THE PERFORMANCE OR BREACH OF THE SERVICES AGREEMENT, shall not exceed the total Contract Price, IT BEING UNDERSTOOD THAT THIS LIMITATION (AND THE LIMITATIONS SET OUT ABOVE) IN CLAUSES 19.1(a) and (B) ARE THE AGGREGATE LIABILITY LIMITATIONS FOR SELLER (UNDER THE SALES CONTRACT) AND SERVICES PROVIDER (UNDER the Services Agreement). SERVICES PROVIDER'S LIABILITY SHALL TERMINATE FOUR (4) YEARS AFTER TAKING OVER, PROVIDED THAT BUYER MAY ENFORCE ANY CLAIM THAT ACCRUED PRIOR TO THAT DATE BY COMMENCING AN ACTION OR FILING AN ARBITRATION WITHIN FOUR (4) YEARS AND SIX (6) MONTHS AFTER TAKING OVER, AS APPLICABLE UNDER CLAUSE 20.
- 19.3 EXCEPT IN CASE OF WILLFUL MISCONDUCT, IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, INDEMNITY, TORT/EXTRA-CONTRACTUAL LIABILITY (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR OTHERWISE, SHALL EITHER PARTY OR ITS SUBCONTRACTORS OR SUPPLIERS BE LIABLE FOR LOSS OF PROFIT OR REVENUES, LOSS OF USE OF THE PLANTS OR PARTS OR ANY ASSOCIATED EQUIPMENT, DOWNTIME COSTS, CLAIMS OF THE OTHER PARTY'S CUSTOMERS FOR SUCH DAMAGES, OR FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, INDIRECT OR EXEMPLARY DAMAGES.
- 19.4 If Services Provider furnishes Buyer with advice or activities concerning any products or services which are not required pursuant to the Services Agreement, the furnishing of such advice or activities will not subject Services Provider to any liability, whether in contract, warranty, indemnity, tort (including negligence), strict liability or otherwise.
- 

- 19.5 Except to the extent Services Provider has responsibility under Clause 17 or as expressly stated in Clause 19.1, Buyer waives rights of recovery against Services Provider for loss or damage to property of Buyer, whether Buyer's claim is brought under breach of contract, warranty, indemnity, tort (including negligence), strict liability or otherwise.
- 19.6 For the purposes of this Clause 19, the term 'Services Provider' shall mean Services Provider, its Affiliates, Subcontractors and suppliers of any tier, and their respective agents and employees, whether individually or collectively.
- 19.7 The provisions of this Article shall prevail over any conflicting or inconsistent provisions contained in any of the documents comprising this Agreement, except to the extent that such provisions further restrict Seller's liability.

20. DISPUTE RESOLUTION

- 20.1 In the event of any dispute arising out of or in connection with the Services Contract, the Parties agree to submit the matter to arbitration to be administered by the AAA under its Commercial Arbitration Rules before a board of three (3) persons consisting of one (1) arbitrator to be appointed by Services Provider, one (1) arbitrator by Buyer, and one (1) by the two so chosen, who will act in the capacity as procedural chairman. The seat, or legal place, of the arbitration shall be New York City, New York. The language to be used in the arbitration shall be English. Judgment on any award rendered by the arbitrators, or a majority thereof, may be entered by a court of competent jurisdiction.

- 20.2 In the event Buyer makes claims against Seller and the Services Provider under the Services Contract;

then in such case:

- (a) Services Provider agrees to appear and participate as a party defendant in the same New York arbitration proceedings commenced under the Sales Contract;
- (b) the arbitration shall be conducted in one proceeding before a single board of three (3) persons consisting of one (1) arbitrator to be appointed jointly by Seller and Services Provider, one (1) arbitrator by Buyer, and one (1) by the two (2) so chosen, who will act in the capacity as procedural chairman, all other terms and conditions of this Clause to apply;
- (c) In the case of an arbitration involving Seller and Services Provider, Service Provider agrees that it shall not assert Seller's performance or non-performance under the Sales Contract as a defense to any claim by Buyer.

AB
3

21. GOVERNING LAW

- 21.1** This Services Agreement shall be governed by and construed in accordance with the laws of the state of New York, U.S.A., without regard to its conflict or choice of laws rules. It is further expressly agreed and understood that the terms and provisions of the UN Convention on the International Sale of Goods shall not to apply to this Services Agreement or any dispute hereunder.

22. HEALTH AND SAFETY MATTERS

22.1 General requirements

At all times each Party shall ensure that its personnel comply with applicable laws and Buyer shall take all other necessary and required actions and precaution for the health and safety of Services Provider's Employees at Buyer's Site. This includes, but is not limited to, instruction regarding safety practices, proper and safe handling of Hazardous Materials, protection of personnel from exposure thereto, energization/de-energization of all power systems (electrical, mechanical and hydraulic) using a safe and effective lock-out tag procedure, communication of information necessary for Services Provider's Employees to work in a safe and legally compliant manner while present at Buyer's Site, and conducting periodic safety meetings during construction and start-up. Services Provider may at any time conduct safety audits to ensure safe conditions exist in respect to the fabrication and assembly of the component parts of the Plant, and the testing and start-up of the Plant.

22.2 Medical Treatment and Transport from the Site

If Services Provider's Employees require first response medical attention while at Buyer's Site, Buyer agrees to provide all reasonable assistance with the provision of appropriate medical care consistent with international industry standards, including medical transport, where necessary, for emergency or urgent medical examination or treatment to a suitable medical services provider. Buyer's provision of assistance as described above for the transport of Services Provider's Employees shall cease upon their arrival at the designated medical services provider, hospital or health care center. In the interests of clarity and for the avoidance of all doubt, Services Provider shall be solely responsible for arranging any and all medical examinations and/or treatment and/or any further medical evacuation to other healthcare facilities on the mainland or overseas and/or any subsequent repatriation of Services Provider's Employees back to their point of origin. Buyer shall have in place during the term of this Services Agreement suitable arrangement with a competent person to carry out such medical emergency transport if needed. The Site shall be equipped and staffed with recognized medical technician to provide first aid, stabilize and prepare for transportation the seriously injured or ill Employee (based on site logistic assessment, onsite provisions of medical requirements may be reduced if the injured person can be transported to an external quality medical facility within one hour from the moment the injury occurred. Medical staff shall be able

JB
W

22.6 Personal Protective Equipment

Services Provider shall provide standard 'Personal Protection Equipment' ("PPE") for its Employees in accordance with relevant legal requirements. Such equipment shall include safety glasses and goggles, safety shoes/boots, hardhat, hearing protection, work gloves, and high visibility anti-flame coveralls. Other PPE or safety equipment if determined necessary by Buyer or through risk assessment for the scope of the Services will be provided by Buyer.

22.7 Communication of applicable legal requirements

If Services Provider's work at Buyer's Site is subject to local, state or national legal requirements that are not reasonably available or ascertainable, Buyer shall notify Services Provider in writing and furnish copies of such legal requirements it reasonably understands applies to the work.

22.8 Buyer Site security

When the Employees are performing Services on Buyer's Site; Buyer shall take all necessary precautions for their security. The Employees shall comply with Buyer's Site security requirements communicated to Services Provider. Emergency site evacuation plans shall be in place in case of increased security threats. Reliable (ground line or satellite) communication to Services Provider's headquarters shall be available on a continuous basis. At a minimum, site area shall be protected by means of lighted security fencing, gates control, perimeter security (such as guarding service &/or video surveillance). Armed guards may be required (based on region specific risk assessment). Military guards may be required (if the region is controlled by the military). Individual close protection may be required (based on region specific risk assessment).

22.9 Transportation Security

Standard of transportation security (such as the type of vehicles, use of armored vehicles or armed escort) are subject to substantial changes based on the result of region specific risk assessment. Secure transport among Service Provider's offices, the Site and lodging facility or camp shall be provided. Vehicles have to be at least equipped with the following safety devices: Classification 4 stars Euro-NCAP crash test (Ref. to web site <http://www.euroncap.com/content/safety>), four drive wheels, minimum weight of vehicle: Kg 2000, four (4) doors, three points safety belts, ABS, power steering, airbags for all passengers, headrests, rollover bars, if available, front/rear anti-fog lamps, third stop lamp, protection system against sparks in the exhaust pipe (where required), First Aid kit, fire extinguisher, air conditioning/heating system, road emergency kit (paddle, triangle, blinking torch, rope), water, emergency blankets. Drivers must hold a valid driving license, hold a valid training certificate of safe driving, and hold a certificate of medical fitness.

AB
6

of communicating, diagnosing and treating the employees for the medical threats present in the area (i.e. malaria, yellow fever, HIV/Aids, Ebola, etc.) as well as generic medical risks (i.e. dehydration, tetanus, etc.). Employees shall have access to first aid treatment and supplies. Notwithstanding the foregoing, Services Provider may, after prior consultation with Buyer, make its own arrangements to transport and/or evacuate any Services Provider Employees from the Site or any departure point in the Country to another location for medical treatment, and all costs of care and/or transport to be for Services Provider's account. Drills shall be conducted & critiqued quarterly. Identified findings shall have an action plan developed & tracked to resolution.

22.3 Excusable delay for unsafe conditions

Services Provider recognizes and acknowledges its awareness of the safety, health and security risks attendant to placing individuals on the ground in Nigeria in respect to the performance of business activities and projects there, and assumes the risks attendant to such endeavors. In the event the safety, health or security of its Employees become subject to an unreasonable risk due to any condition(s), circumstance(s) or practice(s) at the Site that significantly increases the above mentioned risks beyond the levels that existed immediately prior to the time of delivery and Commissioning of the Plant(s) and/or immediately prior to the Services provided for in the Services Agreement, Services Provider may elect to stop work and/or temporarily remove some or all of its Employees from the Site. In such event where reasonably possible, Services Provider shall communicate its concerns to Buyer's representatives in advance of any decision to remove and/or evacuate its Employees and Buyer and Services Provider shall first be required to engage in commercially reasonable efforts to improve any such safety, health and/or security concerns before Services Provider can take action under this Clause, unless the threat or danger to Employees is imminent. If Services Provider exercises its rights under this provision, it shall promptly notify Buyer's representative and the Parties shall cooperate to develop and implement a plan for resuming Services, including any associated remobilization, effective upon either elimination of the condition prompting the stop work or implementation and maintenance of measures that effectively manage the condition or action. The Parties agree there shall be no retaliation taken against any person who invokes their right under this provision to stop work.

22.4 Maximum working hours

Services Provider's Employees shall not be required to work in excess of ten (10) hours per Day and have at least one (1) Day of rest in any seven (7) consecutive Days. If such conditions are required, the provisions of Clause 25 shall apply

22.5 Asbestos

While performing the Services at Buyer's Site, Services Provider's personnel shall not be required to handle any asbestos containing materials (ACM), abate asbestos in equipment, or work in the presence of ACM materials that pose a reasonable health risk. If such conditions are present, the provisions of Clause 23.2 shall apply.

AB
W

22.10 Life support, welfare & housing security

- (a) Quarters shall provide Employees with protection from weather conditions and possible intrusions and be located in a safe area. If they are close to the Plant, they shall be protected from situations of risk or discomfort that might be caused by the Plant operation (i.e, excessive heat from torches, noise, etc.).
- (b) Quarters shall be furnished with lockers and drawers for clothing and personal belongings, and a small desk.
- (c) A common room with another person shall be considered acceptable, equipped with a bathroom containing a normal toilet & a shower.
- (d) Bathrooms shall have hot water distributed according to adequate hygienic standards to prevent pollution and the diffusion of diseases.
- (e) Covered toilets & cleaning facilities shall be available in adequate number, relative to the number of users & shall be maintained in clean & sanitary conditions.
- (f) Buyer shall guarantee lights sufficient to read at night.
- (g) Buyer shall provide power outlets for radio, PC, telephone lines, internet & e-mail access as well as satellite TV should be available for private use & recreation outside working hours.
- (h) The room may be alternatively shared with a person doing the 'back to back' shift, provided it is possible to lock all personal belongings in individual lockers and/or drawers and to carry out cleaning and change of sheets every time that this is necessary.
- (i) The change of sheets and towels shall be carried out at least once a week, while the cleaning of rooms and bathrooms shall be carried out daily.
- (j) Buyer shall provide a refrigerator for cold beverages and Employee's medicines.
- (k) Tables and floor of the canteen room shall be cleaned after every meal and, if the room is particularly wide and with various shifts for each meal, also between said shifts.
- (l) Floors and walls shall not produce dust and have surfaces easy to wash.
- (m) The canteen hall shall provide sufficient room for the Employees both on the table and for seating, and shall be sufficiently lit
- (n) A sufficient number of toilets for the Employees shall be provided next to the canteen room.

- (o) Kitchen and pantry shall be equipped for storing and preparing hot and cold meals.
- (p) Hygiene shall be kept by multiple cleanings carried out during the day.
- (q) Food preparation facilities shall be inspected regularly & meet best industry standards for cleanliness, hygiene & safe food storage (including refrigeration).
- (r) The canteen service shall guarantee the provision of food accurately packaged, in compliance with the highest hygiene standards.
- (s) The main meals shall offer a choice among different dishes (at least two different courses), periodically alternating the composition of meals, which shall take into account the opportunity to satisfy taste and preference of the Employees (international cuisine).
- (t) Food shall be in compliance with dietetic standards and specific circumstances determined by environmental and climatic conditions, trying to ensure the highest availability of fresh food, compatibly with the Plant location. Portions and composition of meals shall cover the normal nutritional daily need of proteins, carbohydrates, fat and vitamins.
- (u) For activities that require work in continuous and alternate shifts the canteen shall provide at least four (4) main meals every twenty-four (24) hours, one every six (6) hours, and at least two (2) main meals for each shift must include hot courses.
- (v) Drinking water shall be certified as potable as portable & free of bacteria, parasites, viruses & parasite eggs.
- (w) A constant laundry service able to guarantee the normal change of linen and work clothes for Employees, at least every second week, shall be made available in order to ensure the best hygienic conditions.
- (x) Services Provider's Employees shall not be required to enter Confined Spaces.
- (y) If Services Provider's Employees shall be required to work at heights, perform any loading, unloading, lifting or handling of equipment, operate near hot spots or explosive areas, prior written consent from Services Provider must be obtained, which will include additional safety requirements for the specific operation.

23. DIFFERING SITE CONDITIONS; HAZARDOUS MATERIALS

23.1 Differing Site conditions

Services Provider shall promptly and, if feasible, before such conditions are disturbed, notify Buyer in writing of unknown physical conditions at the Site, of an unusual nature,

AB
3

differing materially from those ordinarily encountered and generally recognized as inhering in the work of the character provided for in the Services Agreement. Buyer shall promptly investigate the conditions. If it is determined that such conditions do materially differ and cause an increase in Services Provider's cost of, or the time required for, performance of any part of the work under the Services Agreement, an equitable adjustment in Service Contract Price and time of performance shall be made and the Services Agreement modified in writing accordingly.

23.2 Responding to Hazardous Materials and conditions

If Services Provider encounters Hazardous Materials at the Site, which require special handling and/or disposal, it may suspend work pending Buyer elimination of the hazardous condition or other mutually agreeable corrective action required to legally eliminate or minimize such hazardous conditions so that the work under the Services Agreement may safely proceed, including but not limited to, providing specialized training, equipment and alarms, consistent with legal requirements and international industry. Services Provider shall provide personal monitoring alarms. If such Hazardous Material cause an increase in Services Provider's cost of or the time required for performance of any part of the services, an equitable adjustment shall be made in the Service Contract Price and time of performance.

23.3 Responsibility for Hazardous Materials

Buyer agrees to assume full responsibility and properly manage, transport and dispose in accordance with applicable legal requirements of all Hazardous Materials and packing produced or generated in the course of Services Provider's performance of the Services at the Site.

23.4 Hazardous Materials transportation

Buyer shall be responsible for the receipt and transportation of materials and equipment, including material subject to hazardous materials transportation regulatory requirements, between Buyer's nominated supply base or such other location as mutually agreed between the Parties, and Buyer's Site. At the conclusion of the Services performed by the Employees, Buyer shall be responsible at its cost to manage and transport any surplus materials that would be considered Hazardous Materials under applicable requirements.

23.5 Decontamination of equipment

Buyer shall assume responsibility for decontaminating any equipment of Hazardous Materials prior to shipment to Services Provider's designated facility.

23.6 Naturally Occurring Radioactive Material ("NORM")

Prior to its shipment or return to Services Provider, Buyer shall de-contaminate any of its owned or rented tools, or any Services Provider furnished equipment, tools or supplies

AB
C

brought to the job Site, that have been used for production, exploration or production testing and become contaminated with NORM. If Services Provider receives equipment from Buyer that has been contaminated with NORM, Buyer shall be responsible for all costs of de-contamination.

23.7 Indemnification for Hazardous Materials

Buyer shall indemnify Services Provider for any and all claims, damages, losses, causes of action, demands, judgments and expenses arising out of or relating to:

- (i) the presence of any Hazardous Materials which are present on the Site prior to the Commencement Date;
- (ii) improperly handled or disposed of by Buyer or its representatives; or,
- (iii) brought on to the Site or produced thereon by parties other than Services Provider.

24. CONFIDENTIALITY

24.1 In connection with the Services Agreement, Services Provider and Buyer (as to information disclosed, the "Disclosing Party") may each provide the other party (as to information received, the "Receiving Party") with Confidential Information. "Confidential Information" means:

- (a) all pricing for Services Plants and Parts;
- (b) all information that is designated in writing as "confidential" or "proprietary" by Disclosing Party at the time of written disclosure; and,
- (c) all information that is orally designated as "confidential" or "proprietary" by Disclosing Party at the time of oral disclosure and is confirmed to be "confidential" or "proprietary" in writing within ten (10) days after oral disclosure.

The obligations of this Clause shall not apply as to any portion of the Confidential Information that:

- (i) is or becomes generally available to the public other than from disclosure by Receiving Party, its representatives or its Affiliates;
- (ii) is or becomes available to Receiving Party or its representatives or affiliates on a non-confidential basis from a source other than Disclosing Party when the source is not, to the best of Receiving Party's knowledge, subject to a confidentiality obligation to Disclosing Party;

3

- (iii) is independently developed by Receiving Party, its representatives or affiliates, without reference to the Confidential Information;
- (iv) is required to be disclosed by law, a valid legal process or a government agency;
- (v) is approved for disclosure in writing by an authorized representative of Disclosing Party; or,
- (vi) Services Provider discloses to its financial advisors for analytical purposes, provided that such financial advisors are subject to an obligation as to confidentiality no less onerous than that set out in this Clause 24.

24.2 Receiving Party agrees:

- (i) to use the Confidential Information only in connection with the Services Agreement and permitted use(s) of Services;
- (ii) to take reasonable measures to prevent disclosure of the Confidential Information, except to its employees, agents or financing parties who have a need to know for Buyer to perform its obligations under the Services Agreement or to use the Services; and,
- (iii) not to disclose the Confidential Information to a competitor of Disclosing Party.

Receiving Party agrees to obtain a commitment from any recipient of Confidential Information to comply with the terms of this Clause. Confidential Information shall not be reproduced without Disclosing Party's written consent, and Receiving Party shall return all copies of Confidential Information to Disclosing Party upon request except to the extent that the Services Agreement entitles Receiving Party to retain the Confidential Information. Services Provider may also retain one (1) copy of Buyer's Confidential Information until all its potential liability under the Services Agreement terminates.

- 24.3 If Receiving Party or any of its Affiliates or representatives is required by law, legal process or a government agency to disclose any Confidential Information, that party agrees to provide Disclosing Party with prompt written notice to permit Disclosing Party to seek an appropriate protective order or agency decision or to waive compliance by Receiving Party with the provisions of this Clause. In the event that efforts to secure confidential treatment are unsuccessful, Receiving Party may lawfully revise the Confidential Information to make it non-proprietary or to minimize the loss of its proprietary value.
- 24.4 Nothing in this Clause grants Receiving Party any license to any invention, patent, trademark or copyright now or later owned or controlled by Disclosing Party.
- 24.5 Buyer shall not disclose Confidential Information to Services Provider unless it is required to do so to enable Services Provider to perform work under the Services

AB
3

Agreement. If Buyer does disclose Confidential Information, Buyer warrants that it has the right to disclose the information, and Buyer shall indemnify and hold Services Provider harmless against any claims or damages resulting from improper disclosure by Buyer.

- 24.6 Neither Services Provider nor Buyer shall make any public announcement about the Services Agreement or related documents, including its existence, without prior written approval of the other Party.
- 24.7 As to any individual item of Confidential Information, the restrictions of this Clause shall expire the earlier of five (5) years after the date of disclosure or three (3) years after termination or expiration of the Services Agreement.

25. CHANGES

- 25.1 Either Party shall be entitled to request alterations to the Services. Services Provider is not obligated to proceed with the changed schedule or scope until both Parties agree to such change in writing; Services Provider shall nevertheless proceed with the unchanged scope of supply during resolution of the change. If mutually agreed, the changes will be documented in a written document signed by representatives of each Party who have actual authority to legally bind Buyer or Services Provider, along with any equitable adjustments in the Contract Price or the Time For Completion. Any changes in applicable laws, rules and regulations as further detailed in Clause 16 that affect the Service Contract Price or the Time For Completion shall be treated as a Change within the meaning, and subject to the requirements, of Clause 25. Unless otherwise agreed by the Parties, pricing for additional work arising from changes in laws, rules and regulations shall be at time and material rates.

No such request or alteration shall in any way invalidate the Services Agreement and, in carrying out such alteration, the Parties shall be bound by the Services Agreement, except for the alteration itself.

26. TERMINATION FOR DEFAULT

- 26.1 Either Party (the "Non-Defaulting Party") may terminate this Services Agreement if the other Party (the "Defaulting Party"):
- (i) becomes insolvent; or,
 - (ii) the Defaulting Party commits a material breach of this Services Agreement, which does not otherwise have a specified contractual remedy, and fails to cure the breach within thirty (30) Days of notice from the Non-Defaulting Party, or if it is not possible to cure such breach within thirty (30) Days of such notice, fails to

AB
W

commence to cure the breach within thirty (30) Days or fails to thereafter continue diligent efforts to complete the cure as soon as reasonably possible.

26.2 In the event of Buyer:

- (i) failing to pay the undisputed invoiced amount, after Services Provider has suspended the Services Agreement in accordance with this Services Agreement, provided that Services Provider shall have given not less than thirty (30) Days' notice in writing and payment shall not have been made within this period;
- (ii) having suspended the Agreement for a period of more than one hundred and thirty-five (135) Days, allowing Services Provider to treat the case as termination for Buyer's convenience of this Services Agreement by Buyer;
- (iii) becoming bankrupt or insolvent, having a receiving order made against it or carrying on business under a receiver, administrator, trustee or manager for the benefit of its creditors or going into liquidation (other than a solvent reorganization) or any other similar procedure under the applicable law;
- (iv) committing a breach of a material obligation under the Services Agreement;

(any of such circumstances being hereinafter referred to as an "Buyer's Default")

Services Provider shall be entitled without prejudice to any rights or remedies under the Services Agreement to terminate the Services Agreement by thirty (30) Days' written notice to Buyer (provided, that the said notice shall have no effect if the default shall have been remedied or resolved within such period). However, the thirty (30) Days' written notice by Services Provider to Buyer shall not be required in case of event listed under Clause 26.2(iii) above.

27. SUSPENSION

If Buyer fails to fulfill any condition of its payment obligations, Services Provider may suspend performance. Any Cost incurred by Services Provider in accordance with such suspension (including Demobilization and re-Mobilization costs) shall be payable by Buyer upon submission of Services Provider's invoices.

Buyer may at any time, upon thirty (30) Days' prior written notice, instruct Services Provider to suspend the execution of the Services Agreement or any portion thereof for such time and in such manner as Buyer may reasonably consider necessary.

Any Cost reasonably incurred and properly documented by Services Provider (including, but not limited to, Demobilization, re-Mobilization, storage, preservation, inspection, related labor and any other costs due to such suspension) in giving effect to Buyer's

AB
3

instructions under this Clause 27, shall be borne and paid by Buyer, or, unless such suspension is:

- (i) necessary by reason of material default on the part of Services Provider;
- (ii) due to reason of Force Majeure.

28. TERMINATION FOR BUYER'S CONVENIENCE

28.1 Notice of termination for Buyer's convenience

Buyer may at any time terminate the Services Agreement for any reason by giving Services Provider thirty (30) Days' written notice of termination, but subject to payment of the Termination Fees in accordance with Clause 28.2. The Services Agreement shall terminate with effect from the date indicated in such notice.

28.2 Payment on termination for Buyer's convenience or due to Buyer's Default

In the event of termination under Clause 28.1 or Clause 26.2, Buyer shall pay to Services Provider a fee (the "Termination Fee"), equal to:

- (i) the termination charge as per the termination schedule below; minus,
- (ii) any payments made by Buyer in respect of the Services Contract Price in accordance with the Payment Schedule up to the effective date of termination, but to the extent this calculation yields a negative amount, same negative amount to be refunded by Services Provider.

Termination period (counted as from the Commencement Date)	Termination charge (as % of Services Contract Price per Plant)
During 1 st Month	20%
During 2 nd Month	75%
During 3 rd Month	100%

The Termination Fee shall be paid within thirty (30) days from Services Provider's invoice.

The Termination Fee shall be deemed to be in full satisfaction of all of Services Provider's damages and Costs arising from termination of the Services Agreement by Buyer for Buyer's convenience or by Services Provider due to Buyer's Default. Buyer and Services Provider agree that the Termination Fee represents an accurate, reasonable and conservative estimate of the actual level of damages Services Provider is likely to suffer in the event of such termination.

AC
u

29. FORCE MAJEURE

29.1 Neither Party shall be liable or be considered to be in breach or default of its obligations under the Agreement to the extent that performance of such obligations is delayed or prevented, directly or indirectly, due to a Force Majeure Event; provided that Buyer's payment obligation shall not be excused by this Clause unless Buyer's ability to pay is directly affected by a Force Majeure Event.

A "Force Majeure Event" means the occurrence of any (or any combination) of the following events or circumstances, which, or any of the consequences of which:

- (a) are beyond the reasonable control and without fault or negligence of the affected Party;
- (b) could not have been prevented in whole or in part by the exercise of reasonable care and skill by the affected Party; and,
- (c) materially impair or prevent the performance of obligations under this Agreement by the affected Party.

Provided they meet the requirements outlined above, the following shall be considered Force Majeure Events: causes beyond its reasonable control, including, but not limited to, (acts of God, acts (or omissions) of governmental authorities, fires, severe weather conditions, earthquakes, strikes or other labor disturbances, floods, risk of kidnapping, war (declared or undeclared), armed conflict, acts or threats of terrorism, epidemics, civil unrest and riots, and inability on account of causes beyond the reasonable control of Services Provider to obtain necessary materials, necessary components or services to the extent caused by a Force Majeure Event.

For the avoidance of doubt, a Force Majeure Event does not include (except and to the extent that they result directly from a Force Majeure Event), among others:

- (aa) technical failures, normal wear and tear in machinery, or breakdown in equipment;
- (bb) strike or lock-out of Services Provider's personnel;
- (ff) meteorological conditions.

29.2 Effect of Force Majeure

In the occurrence of the Force Majeure Event, then:

AB
3

- (i) the affected Party shall not be liable for any failure or delay in performing its obligations which are affected by the Force Majeure Event under or pursuant to this Agreement during the existence of a Force Majeure Event provided that Buyer's payment obligation shall not be excused by this Clause unless Buyer's ability to pay is directly affected by a Force Majeure Event;
- (ii) any performance deadline, the Delivery Date that the affected Party is obligated to meet under this Agreement shall be reasonably extended for a period equal to the time lost by reason of delay, plus such additional time as may be reasonably necessary to overcome the effect of such delay, provided, however, that, no relief, including the extension of performance deadlines, shall be granted to the affected Party pursuant to this Clause to the extent that such failure or delay would have nevertheless been experienced by the affected Party had the Force Majeure Event not occurred or if the act or omission of the Party claiming relief caused such delay; and
- (iii) each Party will bear its Cost caused by the circumstances of Force Majeure.

29.3 Notice of occurrence

If either Party considers that any events of Force Majeure have occurred which may affect performance of its obligations, it shall notify the other Party as soon as reasonably possible giving written particulars of the relevant event and its effect upon its performance under the Agreement and, where known, the expected duration of the event and its effects on that Party's ability to perform.

The effected Party shall deliver an appraisal report of the effects of the Force Majeure event (the "Force Majeure Report"). The Force Majeure Report shall:

- (i) specify the Force Majeure event;
- (ii) describe the damage to and/or other effects on the Plants resulting from the Force Majeure event, if applicable; and,
- (iii) provide a good faith estimate (in each case to the extent applicable in the circumstances) of:
 - (a) the time it will take to remedy such condition;
 - (b) the effect which the relevant Force Majeure Event is likely to have upon any other contract relating to the Agreement;
 - (c) give a recommendation as to whether or not:
 - (aa) the remedying of the condition should be commenced; or,

AB
W

(bb) completion or continued manufacturing of the Plants, if applicable;

with, in each case, the reasons for such recommendation; and,

(d) include relevant supporting documentation.

In addition to the Force Majeure Report, Buyer may request, and Services Provider shall promptly provide, such related information pertaining to the Force Majeure Report as may be reasonable.

Reasonably promptly after the Force Majeure Event has ended, the Party claiming Force Majeure shall give written notice to the other Party of the precise date of the end of the Force Majeure Event and the extent, with justification, to which it has actually been affected in the performance of its obligations.

29.4 Obligation to continue

Upon the occurrence of any circumstances of Force Majeure, Services Provider shall use commercially reasonable efforts to continue to perform its obligations under the Agreement and to minimize the adverse effects of such Force Majeure Event. Services Provider shall notify Buyer of the steps it proposes to take including any reasonable alternative means to continue the performance of its obligations under the Agreement.

29.5 Termination in Consequence of Force Majeure

If circumstances or consequences of Force Majeure have occurred and shall continue for a period of one hundred and thirty-five (135) Days after date of occurrence and the Parties have not agreed upon a revised basis for continuing the work at the end of the delay, subject to Clause 24, Changes, then, notwithstanding that Services Provider may by reason thereof have been granted an extension of the Delivery Date, either Party shall be entitled to serve upon the other Party an additional twenty-eight (28) Days' notice to terminate the Agreement with respect to the Plant that has been affected by the Force Majeure Event. If, at the expiry of that period, the Force Majeure Event is still in effect, the Agreement shall terminate. In the event of a termination of this Agreement due to Force Majeure, the following provisions shall apply:

- (i) neither Party shall have any liability to the other in respect of termination of the Agreement due to a Force Majeure Event, but rights and liabilities which have accrued prior to termination shall subsist;
- (ii) upon such termination, Buyer shall pay to Services Provider the amounts payable for the work carried out at the date of termination to the extent the work or services carried out.

AM
W

Without prejudice to the provisions in the Agreement governing title to the Plants, such work, machinery and materials shall become, the property of Buyer when delivered, and be at the risk of Buyer when Services Provider shall deliver same in accordance with the original delivery terms.

30. GENERAL CLAUSES

- 30.1** Except as provided in Clause 19, these provisions are for the benefit of the Parties hereto and not for any other third party.
- 30.2** This Services Agreement represents the entire agreement between the Parties and no modification, amendment, rescission, waiver or other change shall be binding on either Party unless agreed to in writing by the Parties' authorized representatives. Each Party agrees that it has not relied on, or been induced by, any representations of the other Party not contained in this Services Agreement.
- 30.3** The invalidity in whole or in part of any part of this Services Agreement shall not affect the validity of the remainder of the Services Agreement.
- 30.4** This Services Agreement may be executed in multiple counterparts that together shall constitute one (1) agreement.

* * *

AB
h

In WITNESS WHEREOF, the Parties have caused this Services Agreement to be executed on the Effective Date.

For the Parties:

For Services Provider:

A handwritten signature in black ink, appearing to read "Alessandro Bresciani", written over a horizontal line.

Name: ALESSANDRO B RESCIANI

For Buyer:

A handwritten signature in blue ink, appearing to read "Eddy Van Den Broeke", written over a horizontal line.

Name: Eddy Van Den Broeke

GUARANTEE AGREEMENT

This GUARANTEE AGREEMENT (the "Guarantee") is made as of the 13th day of September, 2014, by GE Oil & Gas, Inc., a company duly organized and existing under the laws of the State of Delaware, with its head office situated at 4424 West Sam Houston Parkway N. Houston Texas 77041 (herein called "Guarantor"), for the benefit of International Engineering & Construction S.A., Rue de Neudorf 36, L-2222 Luxembourg, Luxembourg, a company duly organized and existing under the laws of Luxembourg, with its head office situated at Rue de Neudorf 36, L-2222 Luxembourg, Luxembourg (herein called "Buyer"). (Guarantor and Buyer are individually referred to herein as a "Party" and collectively as the "Parties," and references to Guarantor and Buyer shall include their successors and permitted assigns).

RECITALS:

WHEREAS, Guarantor, in the capacity as seller, has entered into a certain contract of sale dated September 13, 2014, with Buyer for the sale of two small scale SCMR LNG plants (hereinafter the "Sales Contract" and the "Plants", respectively) which will be installed in Nigeria;

WHEREAS, Buyer requires in-country Nigeria technical supervisory assistance in respect to the in-country Nigeria installation, commissioning, operation and maintenance of the Plants, as well as Buyer-employee training in respect to operation and maintenance of the Plants;

WHEREAS GE International Operations (Nig) Ltd., a corporation duly organized and existing under the laws of Nigeria, with its head office and place of business situated in Nigeria (herein called "Services Provider"), is an affiliate of Guarantor and is, contemporaneously with the execution of the Sales Contract referenced above, entering into a services contract with Buyer to provide the above reference supervision installation and training services (hereinafter the "Services Agreement");

WHEREAS, Buyer is willing to enter into the Services Agreement on the condition, among others, that Guarantor executes and delivers this Guarantee;

WHEREAS, Guarantor is an affiliated entity of Services Provider and is willing to enter into this Guarantee to induce Buyer to enter into both Contracts referenced above.

NOW, THEREFORE, in consideration of the premises and mutual covenants set forth herein, the Parties hereto agree as follows:

1. Guarantor hereby guarantees to Buyer the due, complete and full performance of all of the Services Provider's duties and obligations under the Services Agreement, and in the event of Services Provider's failure to perform or observe any one or more of the terms and



provisions of the Services Agreement, Guarantor shall, upon Buyer's written demand, perform, or take such steps as are necessary to achieve performance or observance of, such terms and provisions; provided, however, Guarantor's payment and performance shall be governed by and subject to the terms and conditions of the Services Agreement, and the provisions in the Sales Contract relating to this Guarantee. Further, subject to the terms and conditions of the Services Agreement, including, without limitation, timely notice of an indemnification claim, defense of the claims and limits on Service Provider's liability, Guarantor shall indemnify and defend Buyer against any and all losses, damages, claims, costs, charges, and expenses from Services Provider's failure to the extent of the limit of Service Provider's liability set forth in the Services Agreement.

2. The liability of Guarantor hereunder shall not be reduced or discharged by any alteration in the relationship between Services Provider and Buyer which has been consented to by Services Provider in writing (with or without the knowledge or consent of Guarantor), or by any forbearance or indulgence by Buyer towards Services Provider or Guarantor whether as to payment, time, performance, or otherwise.

3. Guarantor agrees to make any payment and perform any obligation due hereunder upon written demand without set-off or counterclaim, and waives all privileges or rights which it may have as a guarantor, including any right to require Buyer to claim payment or to exhaust remedies against Seller or any other person.

4. The obligations of Guarantor hereunder shall continue in full force and effect after expiry or termination of the Services Agreement until all of the Services Provider's obligations and liabilities under the Services Agreement have been fully discharged.

5. This Guarantee and the undertakings herein contained shall be binding upon the successors and assigns of Guarantor and shall extend to and inure for the benefit of the successors or permitted assignees of Buyer. Buyer may assign, charge, or transfer, without Guarantor's consent, all or any of its right, title and interest in this Guarantee upon such terms as Buyer may think fit to any Affiliate (as defined in the Sales Contract) or to agent for and on behalf of any syndicate of banks and financial institutions providing credit and guarantee facilities to Buyer in connection with the Sales Contract or the Services Contract. No person other than Buyer or such permitted assignees as described above is intended as a beneficiary of this Guarantee nor shall any such person have any rights hereunder. Guarantor may not otherwise assign or otherwise transfer any of its rights or obligations hereunder.

6. Notwithstanding anything to the contrary above, in the event of any claim under this Guarantee, Guarantor shall be entitled to assert any defense, set-off or counterclaim that Services Provider could assert had such claim been made directly against Services Provider under the Services Contract.

Handwritten signature and initials in the bottom right corner of the page.

7. Any and all disputes arising under or relating to this Guarantee shall be subject to the Dispute Resolution Clause (the arbitration clause) as contained the Services Agreement, which is incorporated herein by reference, with the understanding that any references to Seller in that clause shall be considered a reference to Guarantor for purposes of this Guarantee, and Guarantor agrees, upon demand, to appear and participate in any arbitration commenced by Buyer against Services Provider, Guarantor not to be entitled to appoint a separate arbitrator.

8. This Guarantee shall be governed by and construed in accordance with the laws of the State of New York, without regard to its conflict or choice of laws rules and provided that any provision of such law invalidating any provision of this Guarantee or modifying the intent of the Parties as expressed in the terms of this Guarantee shall not apply.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their respective representatives as of the date first written above.

GE Oil & Gas, Inc.

International Engineering &
Construction S.A.

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

AS
h

Exhibit 5

**AMERICAN ARBITRATION ASSOCIATION
INTERNATIONAL CENTRE FOR DISPUTE RESOLUTION**

**INTERNATIONAL ENGINEERING & CONSTRUCTION S.A.
GREENVILLE OIL & GAS CO. LTD.,**

Claimants

- and -

**GE OIL & GAS, LLC (F/K/A GE OIL & GAS, INC.)
PRESSURE CONTROL SYSTEMS NIGERIA LIMITED (AS
SUCCESSOR TO GE INTERNATIONAL OPERATIONS (NIGERIA) LTD.)
GE INTERNATIONAL OPERATIONS (NIGERIA) LTD.
BAKER HUGHES, A GE COMPANY AND
BAKER HUGHES, A GE COMPANY, LLC (AS SUCCESSORS
TO GE OIL & GAS, LLC [F/K/A GE OIL & GAS, INC.]),**

Respondents

Claimants' Statement of Claim

And

Statement of Defense to Counterclaim

March 15, 2019

(Corrected Copy)

**Freehill Hogan & Mahar LLP
80 Pine Street, 25th Floor
New York, New York 10005-1759**

**Baker Botts LLP
41 Lothbury
London EC2R 7HF
United Kingdom**

TABLE OF CONTENTS

I. INTRODUCTION.....	1
II. FACTUAL BACKGROUND	6
A. The Parties	6
1. The Claimants	6
2. The Respondents	7
B. A Basic Introduction to LNG and the Liquefaction Process	8
C. Claimants' Development of Their LNG Business	15
D. GE's Misrepresentations to Claimants Before Contract Execution	19
E. The Contracts	23
1. The Equipment Contract	24
2. The Services Contract.....	32
F. The Chronology of GE's Non-Performance of the Contracts	35
1. Claimants Developed Their Project As Timely As GE's Performance Allowed.....	37
2. Although Claimants Were Ready, GE Failed to Deliver Either Train On Time.....	41
3. Claimants' Contractors Timely Installed the Modules Once They Arrived	46
G. The Litany of Defects Resulting from GE's Non-Performance of the Contracts.....	49
1. Defective Process Design	52
2. Unsafe Flare System	57
3. Dangerously Undersized Electrical Cables.....	59
4. Inadequately Supported Pipes	60
5. Ineffective Starting Mechanism for Mixed Refrigerant Compressors	62
6. Defectively Engineered MR Coolers Module	64
7. Delivery of Untested Interconnecting Pipes	65
8. Delivery of Substantially Misaligned Modules.....	66
9. Defectively Fabricated Static Mixer (Backwards Installation)	67

10.	Improperly Engineered and Installed Expansion Bellows.....	69
11.	Defective Inlet Guide Vanes on the MRCs	70
12.	Defective and Incomplete Automation System.....	71
13.	Unaligned MRCs and Missing Couplings.....	72
14.	Thousands of Missing, Improperly Engineered or Fabricated, and Defective Valves	73
15.	Hundreds of Missing, Defective and Improperly Sized Instruments.....	75
16.	Defective Electrical Cable Boxes	76
17.	Tens of Thousands of Missing and Defective Nuts, Bolts, and Studs.....	78
18.	Hundreds of Rusted or Missing Spectacle Blinds	79
19.	Failure to Provide Heat Tracing on Cryogenic Equipment and Lines	80
20.	Inferior Boil-Off Gas Compressor	81
21.	Amine Column Pumps Without Glycol Protection.....	81
22.	Mostly Inexperienced and Unsupervised On-Site Support Personnel.....	82
23.	Incomplete Operation and Maintenance Documentation	83
III.	ARGUMENT.....	84
A.	GE Has Breached the Equipment and Services Contracts	84
1.	Greenville is a Third-Party Beneficiary of the Equipment Contract and Services Agreement.....	86
2.	GE breached the Equipment Contract by failing to deliver the Plants by their respective Delivery Dates.	88
3.	GE breached the Equipment Contract by failing to deliver fully- modularized Plants.	89
4.	GE breached the Equipment Contract by Failing to Deliver Plants capable of producing 0.25 MTPA of LNG.....	91
5.	GE breached the Equipment Contract by failing to deliver defect-free Plants.....	92
6.	GE breached the Equipment Contract by failing to deliver tropicalized Plants.....	93
7.	GE breached the Services Contract by failing to provide meaningful supervision of installation of the Trains.	94
B.	GE Fraudulently Induced Claimants to Enter Into the Equipment and Services Contracts.....	95

1.	GE fraudulently misrepresented its present abilities to lure IEC into contracting with BHGE.....	96
2.	GE fraudulently represented its present capabilities with the intent to induce reliance.....	99
3.	Claimants reasonably relied on GE’s knowing misrepresentations.....	100
4.	GE’s knowing misrepresentations caused Claimants substantial damages.....	103
C.	GE Committed Fraud in Misrepresenting Its Abilities During Performance of the Equipment Contract	103
IV.	CLAIMANTS ARE ENTITLED TO RECOVER DIRECT AND CONSEQUENTIAL DAMAGES	109
A.	Claimants Are Entitled To Recover All Direct and Consequential Damages — Including Lost Profits — Suffered as a Result of GE’s Willful Misconduct and Gross Negligence.	109
B.	Claimants Are Entitled to Recover Their Full Loss As A Result of GE’s Misconduct.....	112
C.	Claimants Are Entitled To Recover Direct Damages Under the Sales and Services Agreements for GEOG’s Multiple Breaches of the Agreements.....	115
1.	Direct CAPEX Damages.....	115
2.	Direct OPEX Damages	117
D.	In the Alternative, IEC and Greenville Seek Damages on Their Fraudulent-Inducement and Post-Contract Fraud Claims.	118
E.	Claimants Are Entitled to Liquidated Damages for Delay	120
V.	GE’s COUNTERCLAIMS MUST BE REJECTED.....	121
A.	The Claims Process Under the Contracts	122
B.	Each of GE’s Particular Claims Under the Equipment Contract Fails	124
1.	Payment for Mechanical Completion of Train 1	124
2.	Interconnecting Pipework	125
3.	Bolt Changes.....	126
4.	Gas Composition	128
5.	Load Out Philosophy	129
6.	Power Generation	130
7.	Alleged Technical Information Delay	131

8.	Requests for Alternative Designs.....	131
9.	Vent/Flare	132
10.	BoG Compressor Inlet.....	132
11.	LNG Control System Spares.....	133
12.	Claims on extension of time, prolongation, acceleration and thickening must be rejected.	133
C.	Each of GE's Claims Under the Services Agreement Fails.....	136
1.	No Additional Support Was Requested Under the Services Agreement..	136
2.	Alleged Cost of Third Party Support.....	137
3.	Third Party Strikes	139
4.	Third Party Vendor Support	139
5.	Material Care and Custody Audit & Defective Site Material Management	141
6.	Accommodation and Transportation.....	142
7.	Coordinated Project Schedule	142
8.	Compensation for Extended Performance	143
D.	GE's Claim for Costs Associated with the New York Action Is Misplaced, and in Any Event Premature	143
E.	GE's Alleged Breach of Confidentiality Obligations Is Misplaced	144
F.	GE's Claim for Security for Costs Must Be Rejected	146
VI.	CONCLUSION	147

STATEMENT OF CLAIM

1. Claimants, International Engineering & Construction, S.A. (“**IEC**”) and Greenville Liquefied Natural Gas Company, Ltd.¹ (“**Greenville**” and, collectively with IEC, “**Claimants**”) submit this Statement of Claim and Response to Counterclaim (“**SoC**”) against the four respondents (collectively “**GE**” or “**Respondents**”) pursuant to the Tribunal’s December 14, 2018, Scheduling Order.
2. Accompanying this SoC are documents identified as Exhibits C-1 through C-836; legal authorities identified as Exhibits CL-1 through CL-119; the Witness Statements of Eddy Van den Broeke, Ed Griffin, Erik Helsen, Werner Pirijs, Ritu Sahajwalla, and Sakthi Srinivasan; the Expert Report of Peter Lumley (“**Lumley Expert Report**”), the Expert Report of John Lancaster (“**Lancaster Expert Report**”), the Expert Report of Robert Caligiuri and Scott Wright (“**Exponent Expert Report**”), the Expert Report of Matthew Wills (“**Wills Expert Report**”), and the Expert Report of Carlos Lapuerta (“**Lapuerta Expert Report**”).

I. INTRODUCTION

3. Claimants have invested more than US\$ 500 million to establish their business of liquefying Nigeria’s abundant natural gas and then delivering it by cryogenic truck to customers in Nigeria that are currently served by Nigeria’s unreliable electricity and pipeline grids, or by expensive diesel fuel.
4. As a result of that investment, Claimants have access to the abundant Nigerian gas, they have installed pressurized LNG storage tanks, they have a fleet of cryogenic trucks sitting in place waiting to transport the LNG throughout Nigeria (and, indeed, West Africa), they have truck loading gantries to load the trucks from the LNG storage tanks, and they have storage, regasification and power units for over 60 customers. And it is all sitting idle in Nigeria.

¹ Until January 6, 2019, Greenville was known as Greenville Oil & Gas Company, Ltd.

5. What is missing is the ability to liquefy the natural gas. And that is because GE has failed — as GE always knew that it would — to deliver the two liquefaction trains that it promised.
6. In September 2014, IEC contracted with General Electric Oil & Gas, Inc. (“GEOG”) to deliver one fully-modularized small-scale LNG production plant on June 13, 2015, and a second fully-modularized small-scale LNG production plant on September 13, 2015.² Because each plant was to be fully modularized, GE promised that installation and commissioning would be quick, with the plants (or “trains,” as LNG liquefaction plants are sometimes referred) producing LNG by late 2015 and early 2016, respectively. The contract price was US\$ 95 million (with a bonus if GE delivered the first plant in eight months), plus an additional US\$ 1 million for a services contract with GEOG’s Nigerian affiliate.
7. As of the date of this SoC — March 15, 2019 — GEOG and its alter egos (*i.e.*, the Respondents) have not completed delivery of either train. With respect to each, GE continues (i) delivering parts that it omitted to install in the modules and (ii) replacing improperly designed or defective parts. In fact, GE is still making fundamental design changes — Claimants are now awaiting GE’s 13th version of the P&ID and its 10th version of the Electrical One-Line Diagram — to try to get the trains to work.³
8. The problem, Claimants have learned, is that GEOG never had the ability to perform its promises on the timeframes to which it committed, but lied to get the contract. In April 2018, the Respondents’ then-Rumuji site manager, Cody Lindsey, admitted in a room full of Claimants’ personnel that GEOG knew it was incapable of delivering the trains in nine and twelve months. In fact, GEOG’s salesmen were told that it could not be done. The GEOG salesmen, however, knew that the only way to stop Claimants from buying the two

² Those dates were eventually extended by 11 days to June 24, 2015 and September 24, 2015.

³ The P&ID is the piping and instrumentation diagram. It is an essential blueprint for constructing a processing plant, like a liquefaction plant. The Electrical One-Line Diagram is the blueprint for the electrical lines that distribute power to the plant.

trains from Chinese competitors — who were offering similar products to Claimants for approximately one-half of what GEOG was charging — was to promise them that GEOG already had the technical knowledge and could deliver two, fully modularized trains in nine and twelve months. That is what GEOG's salesmen falsely promised. Those salesmen fraudulently induced IEC to enter into the contract with GEOG.

9. GEOG's technical team knew it was impossible to build a train in nine (or twelve) months because they had been trying for over three years — without success — to develop the designs and to fabricate very similar trains for Shell. As of September 2014, when GEOG was promising delivery to Claimants in nine and twelve months, GEOG was already 18 months behind on its promise to deliver comparable trains to Shell within 17 and 23 months under two separate contracts. In other words, GEOG had told Shell that it would take much longer than 12 months to fabricate a train, and it was more than 18 months behind on its schedule to meet that deadline. As Ed Griffin — the Shell contractor who was on-site at GE's facilities supervising GE's efforts for Shell — explains in his witness statement, GEOG was struggling with all phases of the Shell project: engineering, fabrication and quality assurance.
10. Once IEC had signed the contracts with GEOG, GE then concealed its inability to perform to keep Claimants from terminating and going back to their Chinese suppliers. GE ultimately — and after the contract deadline had passed — delivered partially fabricated modules with missing and defective equipment. Solely by way of example, and as described more fully in the remainder of this SoC, GE:
 - (a) adopted a liquefaction design that was incapable of producing the contractually specified volumes of LNG;
 - (b) delayed providing Claimants with the specifications and information needed to design and to construct the equipment foundations and tie-ins;
 - (c) shipped incomplete and defective modules to Claimants after falsifying the testing and inspection reports to say that the modules were 100 percent complete and tested;

- (d) delivered liquefaction plants that suffered (and continue to suffer) from innumerable serious defects that render them dangerous and inoperable, including:
- i. a defective process design that would freeze heavy hydrocarbons in (and downstream of) the cold box, blocking small passageways through pipes, valves, heat exchangers, and transfer pumps, rendering the trains inoperable;
 - ii. flare systems that are unsafe and risk releasing flammable and explosive hydrocarbons into the atmosphere;
 - iii. undersized electrical cables that overheat, smoulder and risk starting a fire;
 - iv. dozens of piping systems that are over-stressed and require proper design;
 - v. a starting mechanism that is incapable of starting the mixed refrigerant compressors (which are the heart of the liquefaction process);
 - vi. a static mixer installed backwards that led to its destruction;
 - vii. improperly sized and designed expansion bellows that would have failed with potentially dire consequences if the trains were placed in operation;
 - viii. hundreds of valves that were missing, installed improperly, defective, or not capable of withstanding the harsh Nigerian climate;
 - ix. hundreds of missing, defective, unwired, and improperly sized instruments that would prevent the trains from running properly if placed in operation;
 - x. defective electrical boxes with leaking or missing glands, and no covering to protect workers from potential electric shock when working in wet tropical weather;
 - xi. tens of thousands of nuts, bolts, and studs that were missing or incapable of withstanding the harsh Nigerian climate due to lack of the correct surface treatment or improper materials;

- xii. hundreds of spectacle blinds missing and/or not capable of withstanding the harsh Nigerian climate, leading to contamination and safety risks;
 - xiii. a virtual absence of heat tracing on the equipment and lines;
 - xiv. defective inlet guide vanes on the mixed refrigerant compressors that could have destroyed the compressors if placed in operation;
 - xv. incomplete operation and maintenance documentation;
 - xvi. incomplete and defective as built documentation; and
 - xvii. incomplete automatization.
11. GE's willful misconduct and defective performance have caused Claimants to suffer massive losses. Carlos Lapuerta has developed a sophisticated cash flow model that assesses the total damages from GE's misconduct at US\$ 591 million. IEC's damages include over US\$ 200 million in direct damages as explained by Mr. Erik Helsen. These damages continue to accrue and will be updated in subsequent submissions to the Tribunal.
12. Aware of its many failures, GE has asserted a counterclaim, apparently trying to deflect attention from its own misconduct. But that counterclaim highlights GE's defective performance. The counterclaim is addressed fully in Part V of this SoC. In sum, GE claims:
- (a) US\$ 4.75 million, plus interest, for payment for a mechanical completion milestone that it is nowhere near achieving;
 - (b) US\$ 9.9 million, plus interest, for equipment and services that GE was already obligated to provide; and
 - (c) US\$ 15.5 million, plus interest, for man-hours incurred to complete and repair the unfinished and defective equipment that GE had delivered to Claimants.

II. FACTUAL BACKGROUND

A. The Parties

1. The Claimants

13. IEC is a company incorporated in Luxembourg. It is a privately held company that is ultimately majority-owned by Eddy Van den Broeke.
14. IEC holds, indirectly, 100 percent of the outstanding shares of Greenville.⁴ Greenville is a Nigerian company that operates the LNG business that is the subject of these proceedings. Greenville is a third-party beneficiary to the agreements at issue in this arbitration.
15. As explained below, GE understood from the beginning of its relationship with Claimants that IEC was procuring the trains at issue for use in Nigeria by Greenville, which would serve as the Nigerian company responsible for commercial operation of the trains. Throughout performance, GE representatives have frequently and consistently interacted with both Greenville and IEC representatives in performing the agreements.
16. Claimants' LNG project in Nigeria is located in Rumuji, Rivers State.⁵ The annotated overhead picture of the project, below, shows (i) the three existing LNG liquefaction trains, (ii) the 40 LNG and 12 LPG storage tanks, (iii) the power plant consisting of 15 machines of 3.3 MW with an extension of 5 x 3.3 MW, (iv) the fleet of 200 LNG trucks and cryogenically insulated semi-trailers, (v) the 12 truck loading gantries and (vi) the storage tanks and regasification units that will be provided to customers once LNG can be produced. Within 0.5 km to the south is the Rumuji node, where several natural gas transmission lines intersect on their way to Bonny Island, Nigeria, where the Nigerian

⁴ On January 6, 2019, Greenville changed its name from Greenville Oil & Gas Co., Ltd. to Greenville Liquefied Natural Gas Company, Ltd. Exhibit C-300. A diagram of the ownership structure is presented in the witness statement of Erik Helsen. *See* Helsen Witness Statement ¶ 6.

⁵ Pirijns Witness Statement, ¶ 8.3.

National Petroleum Company operates a major liquefaction center for the export of LNG from Nigeria.⁶



2. The Respondents

17. Baker Hughes, a GE company (“**BHGE**”) is a Delaware corporation. BHGE was formed in 2017 when General Electric Company merged its entire oil and gas business — including all such business being carried on by subsidiaries (such as GEOG and GE Nigeria) — into a new entity that would eventually become BHGE LLC.⁷

⁶ Pirijns Witness Statement, ¶ 8.3.

⁷ See <https://investors.bhge.com/static-files/fd5f48b3-6c6c-4965-b604-ed04a5ff508b> (visited 4 March 2019) (excerpted at Exhibit C-742).

18. Baker Hughes, a GE Company LLC, (“**BHGE LLC**”) is a Delaware Limited Liability Company formed in 2017 to hold the combined businesses of Baker Hughes and GEOG.⁸ Since 2017, employees of BHGE LLC have been performing the contracts at issue in this arbitration.
19. GE Oil & Gas, Inc. (“**GEOG**”) was a wholly owned subsidiary of General Electric Company until 2017 when it was contributed by GE to BHGE LLC. Since the merger, BHGE LLC has performed the obligations of GEOG under the contracts at issue in this arbitration.
20. GE International Operations (Nigeria) Ltd. (“**GE Nigeria**”) is the signatory to the services agreement at issue in this arbitration.⁹ However, since 2017, employees of BHGE LLC have been performing obligations in relation to that contract, too. Indeed, the claims made under the services agreement in June 2018 were made by BHGE LLC on BHGE letterhead.
21. Each of these entities is a proper respondent, subject to arbitrate this dispute. Currently, the arbitrability issue is *sub judice* before the U.S. District Court for the Southern District of New York. Claimants’ submissions to that Court establish that BHGE and BHGE LLC (i) have taken over the performance of the Contracts at issue in this arbitration, (ii) are the alter egos and successors of GEOG and (iii) are equitably estopped from denying their obligations under the contracts at issue here, including to arbitrate this dispute. Claimants’ submissions to the Court are submitted as Exhibit C-758, and the relevant legal authorities are Exhibits CL-51 to CL-119. Those arguments are incorporated by reference here.

B. A Basic Introduction to LNG and the Liquefaction Process

22. Mr. Lumley’s expert report provides a brief overview of LNG and the liquefaction process.¹⁰ Natural gas is a mixture of hydrocarbon gases, of which methane (CH₄) is by

⁸ See *id.*; see also <https://investors.bhge.com/static-files/250455b8-338a-404b-8f8e-5c6be1d614d2> (visited 4 March 2019) (excerpted at Exhibit C-743).

⁹ Pressure Control Systems Nigeria Limited claims to be the successor in interest to GE Nigeria.

¹⁰ Lumley Expert Report, ¶ Part 4.

far the most abundant. In addition to methane, natural gas commonly contains hydrocarbons, such as ethane (C_2H_6), propane (C_3H_8), butane (C_4H_{10}), pentane (C_5H_{12}), hexane (C_6H_{14}), etc. as well as aromatic (or cyclic) hydrocarbons, such as benzene, toluene, ethylbenzene and xylene (collectively abbreviated as “BTEX”). Hydrocarbons with three or more carbon atoms (*e.g.*, propane, butane, pentane, etc.) are referred to as C3+ hydrocarbons. Hydrocarbons with a higher number of carbon atoms, such as pentane, hexane, and BTEX, are also commonly referred to as heavy hydrocarbons (“HHCs”). Natural gas often also contains a small percentage of impurities, such as carbon dioxide (CO_2), hydrogen sulfide (H_2S), mercury (Hg), nitrogen (N_2), and water.

23. Liquefied natural gas (“LNG”) is overwhelmingly methane along with some ethane that has been converted to liquid form. The conversion of these gases into liquid is done by subjecting them to very low temperatures (*i.e.*, cryogenic temperatures): approximately -161°C at atmospheric pressure, and slightly warmer temperatures at higher pressures. The gas is cooled with a heat exchanger inside the “cold box.”
24. For present purposes, the main steps of the liquefaction process are: (i) feed gas purification and pre-treatment, (ii) liquefaction and (iii) storage. A visual depiction of the process is provided at Figure 1.

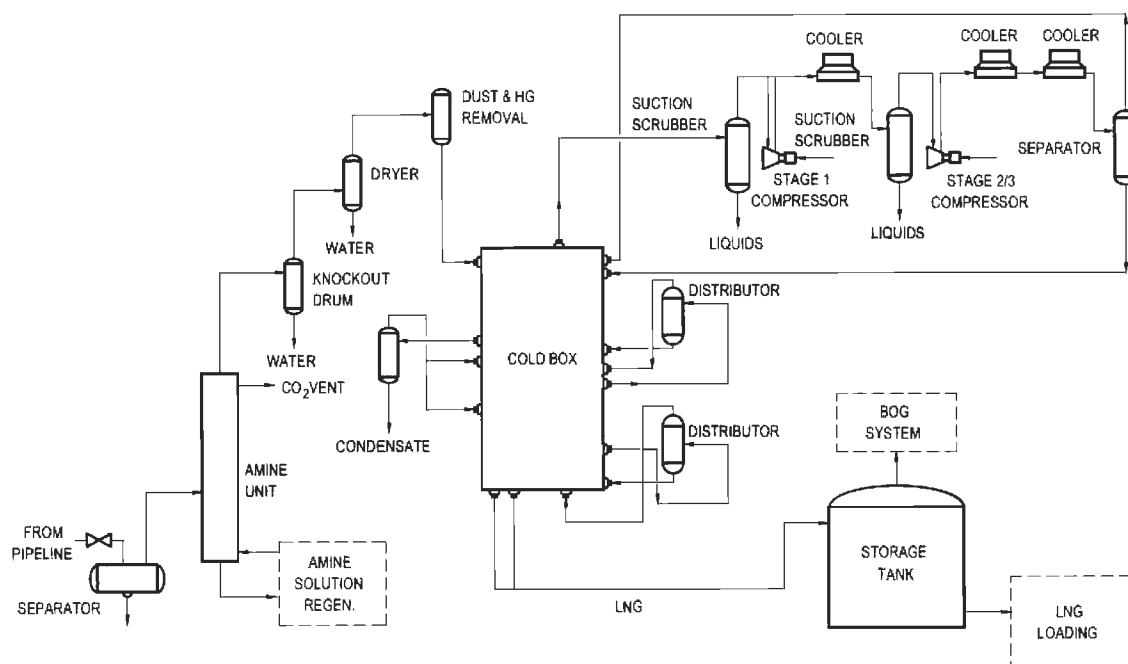


Figure 1

25. Natural gas arrives at the liquefaction plant via a gas pipeline. The gas enters the plant through an inlet pressure control valve, which ensures the gas enters the plant at a constant pressure.
26. Purification and Pretreatment: Upon arrival, the natural gas is cleaned of various gaseous, liquid and solid impurities. The first step is to feed the gas through a feed gas separator, which removes liquids and particles that have been caught up in the gas.
27. The filtered gas next passes through an amine unit, which eliminates virtually all of the carbon dioxide and any hydrogen sulfide in the gas. These molecules are removed to eliminate the risk that they will react with water molecules to form acids that may corrode the pipelines and equipment in the plant. The carbon dioxide must also be removed because its freezing temperature is much warmer than the temperature at which hydrocarbons freeze; if left in the gas stream, therefore, the carbon dioxide would freeze during the liquefaction process before the natural gas was liquefied, damaging and/or clogging the equipment. While the gas that exits the amine unit has been stripped of carbon dioxide and hydrogen sulfide, it is saturated with water vapor formed by the temperature and pressure conditions in the amine unit.
28. As a result, the gas must be dehydrated after passing through the amine unit. Otherwise, the water vapor, like the carbon dioxide, will freeze long before the methane and ethane liquefy. Dehydration occurs in two steps. First, the saturated gas is cooled through a knock-out drum in which the condensed water separates from the gas, and drops out of the gas stream. After the knock-out drum, the gas passes through a molecular sieve dryer that virtually eliminates the concentration of water vapor.
29. The gas is then passed through a dust and mercury removal system. This is necessary because mercury will combine with the aluminum alloy plates of the cold box, risking mechanical failure.
30. Liquefaction: Once the impurities in the natural gas are removed, the natural gas can be liquified. There are various technologies used for liquefaction, but the GE plants purchased by the Claimants use “cold box” technology. In essence, the cleaned gas is run through a

heat exchanger that cools it to cryogenic temperature using an extremely cold mixed refrigerant.

31. The cold box contains a series of aluminum alloy plates (or “fins”). The plates are arranged to allow: (i) the natural gas to flow through the cold box via one path between the plates and (ii) the mixed refrigerant to flow through the cold box via a second path on the opposite side of the same plates. In this arrangement, the natural gas and mixed refrigerant never contact one another and, therefore, do not physically mix. Heat is transferred through the plates from the warm natural gas to the extremely cold mixed refrigerant as both travel through the cold box. As heat is transferred, the temperature of the natural gas is reduced while the temperature of the mixed refrigerant is increased.
32. The composition of the natural gas entering the liquefaction process is important. While natural gas is primarily composed of methane, it also contains heavier hydrocarbons. Each of these hydrocarbons converts from gas to liquid (*i.e.*, liquifies) at a different temperature. Generally, as the number of carbon atoms in the hydrocarbon increases, the liquefaction temperature of the hydrocarbon is warmer. For example, at atmospheric pressure, methane (C₁) liquefies at -161°C while hexane (C₆) liquefies at -68°C. Likewise, each of these hydrocarbons converts from liquid to solid (*i.e.*, freezes) at a different temperature. For example, methane will freeze at -182°C while hexane will freeze at about -91°C.
33. The fact that heavier hydrocarbons both liquefy and freeze at temperatures warmer than lighter hydrocarbons creates challenges in the liquefaction of natural gas. If, for example, natural gas containing material quantities of both hexane and methane is run through a cold box, most of the hexane would freeze before the methane gets cold enough to liquefy. The frozen hexane would then block the small passageways through pipes, valves, heat exchangers, and transfer pumps, rendering the plant inoperable. It is necessary, therefore, to make the gas to a temperature sufficient to liquefy the lightest hydrocarbons without allowing the heavier hydrocarbons to freeze.
34. To address this issue, cold boxes are designed so that natural gas cools as it flows from the top to the bottom of the cold box. A high-level visual depiction of the cold box used by

GE for the Claimants' Trains is provided below in Figure 2. For graphic purposes, the gas streams (A-C) are on the left while the mixed refrigerant streams (E-G) are on the right.

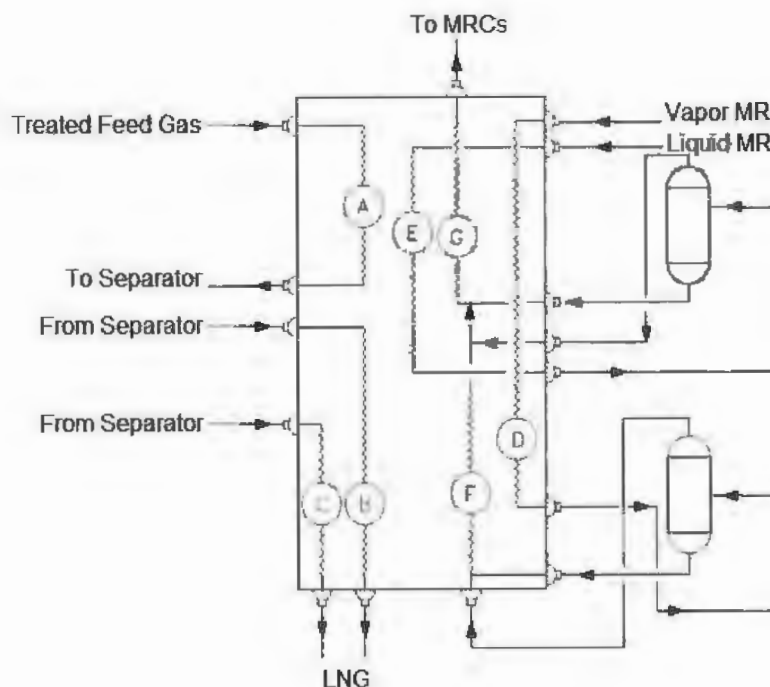


Figure 2

35. Depending on the composition of the feed gas, the cold box will be designed with an outlet for the gas stream somewhere between the top and bottom, at the point where the temperature of the gas stream is sufficiently cold to liquefy most of the heavy hydrocarbons. At that temperature, a two-phase mixture containing both liquid and vapor exits the cold box to a separator that allows the liquefied hydrocarbons — referred to as “unstabilized condensate” — to “fall out” of the vapor. The remaining vapor then re-enters the cold box and continues to cool as it passes through the remainder of the cold box. The two passes in the cold box are referred to as the “first pass” (A) and the “second pass” (B)/(C).¹¹

¹¹ The second pass may, as in the case of the Claimants' Trains, consist of two separate streams, the “B” stream and the “C” stream when, for example, light hydrocarbons from the unstabilized condensate can be recovered and routed back into the cold box to increase the volume of LNG produced.

36. Unfortunately, heavy and light hydrocarbons do not separate neatly in the cold box based on their boiling points. Rather, because of the so-called vapor-liquid equilibrium, some HHCs remain vapor and some light hydrocarbons liquefy.¹² The art of cold box design is to position the outlet of the separator at a low enough level (and, therefore, temperature) to ensure enough of the HHCs liquefy and fall out. But the lower the position of the outlet, the more light hydrocarbons will also liquefy and fall out due to the vapor-liquid equilibrium. Therefore, to produce as much LNG as possible, the cold box designer must position the outlet to avoid losing too much of the methane and ethane (which is intended for LNG), while maintaining an acceptable margin of error to avoid freezing the cold box with the heavier hydrocarbons. In other words, the lower the outlet to the separator is positioned in the cold box, the more unstabilized condensate is produced and the less LNG is produced.
37. The liquid that “falls out” after the first pass is a mixture of all the hydrocarbons in the gas stream, such as methane, ethane, propane, butane, pentane, hexane, etc. This unstabilized condensate is an undesirable waste byproduct. Flaring unstabilized condensate is environmentally unsatisfactory and wastes the methane and ethane that it contains. An alternative to flaring is to use very expensive equipment to separate this unstabilized condensate into its various components, *e.g.*, methane, ethane, propane and butane. That equipment — such as a de-methanizer, a de-ethanizer, a de-propanizer, a de-butanizer, etc., and sometimes referred to as a fractionation column — recovers the methane and ethane that is otherwise lost in the waste byproduct and re-directs it back into the cold box in, *e.g.*, the “C” stream of the second pass. With even further investment, the pentane and butane can be recovered and processed into liquefied petroleum gas (“LPG”).
38. Once the HHCs have been sufficiently removed after the first pass, the remaining vapor stream can then safely flow through the second pass and liquefy entirely. The liquefied

¹² The vapor-liquid equilibrium exists because some amount of each hydrocarbon will be soluble in the liquid state of the others. Thus, a certain amount of the light hydrocarbons will be soluble in the liquid condensate of the HHCs, and some of the HHCs will be soluble in the liquid state of the light hydrocarbons and become part of the LNG. It is only when the amount of the HHCs in the natural gas flow exceeds their solubility limits that the HHCs will freeze on the second pass through the cold box.

gas – LNG – exits from the bottom of the cold box and is routed either to large storage tanks that hold the LNG at atmospheric pressure, or smaller “bullet” storage tanks that hold the LNG under pressure.

39. To obtain the very cold temperatures necessary to liquefy natural gas, the cold box depends on the mixed refrigerant cycle. In Claimants’ Trains, the mixed refrigerant (or “MR”) travels in a single “closed” loop cycle that allows the mixed refrigerant to be reused. A visual depiction of the MR refrigeration cycle used in this project is shown in Figure 3 below.

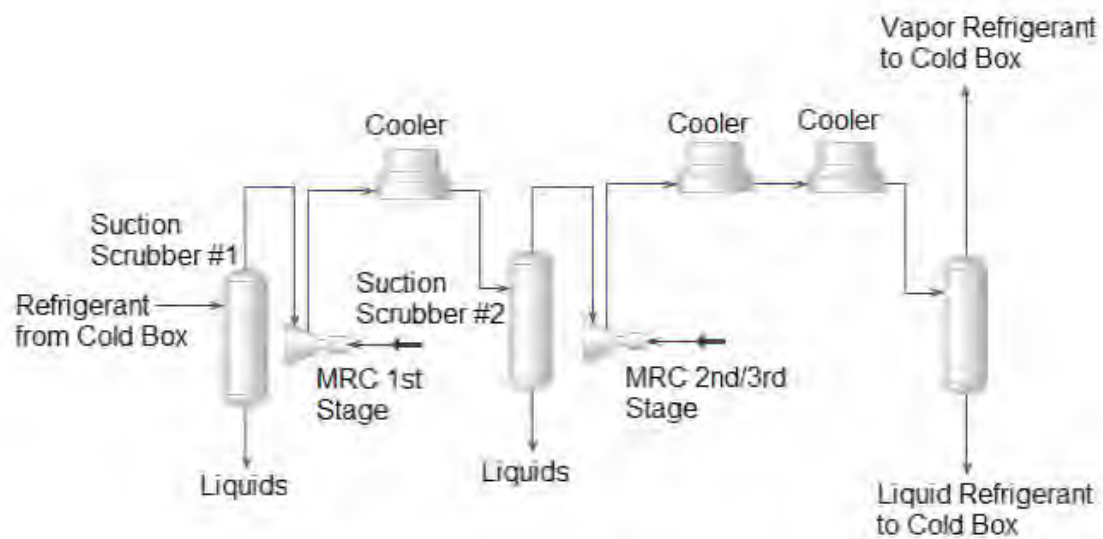


Figure 3

40. Key to the MR refrigeration cycle is pressurization of the MR to maximize its heat transfer efficiency. Pressurization of the MR in the Claimants’ Trains is done with two (2) “Mixed Refrigerant Compressors” (or “MRCs”) per train. These MRCs are driven by powerful electrical motors that require a substantial surge of power to start up. During the MR refrigeration cycle, the MR gas is compressed from about 2.891 bar to about 38.1 bar.

41. Once chilled and compressed, the MR enters the cold box and traverses through passes D through G. The flow of the MR through those passes is not important to this dispute. As it flows, however, the MR passes through several Joules-Thompson expansion valves, which significantly reduce its pressure, thereby reducing its temperature sufficiently to bring the natural gas on the opposite side of the heat exchanger’s fins extremely cold.

C. Claimants' Development of Their LNG Business

42. The IEC group of companies has been operating in Nigeria and the rest of west Africa since 1993.¹³ Between 1989 and 2015, their principal business had been bitumen.¹⁴ During this period, the group built a sterling reputation for reliability and helping customers meet their commercial goals.¹⁵ This reputation, combined with their development of proprietary technological advances that reduced cost, gave the group a 75 (or more) percent share of the Nigerian bitumen market, alone.¹⁶
43. Those technological advances had to do with energy savings. Energy is a significant cost in the bitumen business.¹⁷ The group initially was able to reduce energy usage by developing insulation techniques that allowed them to limit heat loss when transporting bitumen.¹⁸ A further advance was achieved by converting to natural gas one of their bitumen plants that could obtain access to that fuel.¹⁹ This success led Werner Pirijns, the then Managing Director of the group, to investigate how natural gas could be obtained to supply their other bitumen plants.²⁰ Given Nigeria's inadequate pipeline grid, which did not reach most of the country, Mr. Pirijns began considering LNG in about 2009.²¹
44. The group eventually abandoned that initial investigation because there was no domestic supply of LNG in Nigeria, and the costs to develop liquefaction capacity were too high.²² But in 2012, developments in the cost-effectiveness of small-scale LNG technology prompted renewed consideration of LNG both (i) as a fuel for the group's bitumen plants

¹³ Van den Broeke Witness Statement, ¶ 2.9.

¹⁴ Van den Broeke Witness Statement, ¶ 2.9.

¹⁵ Van den Broeke Witness Statement, ¶ 2.9; Sahajwalla Witness Statement, ¶¶ 7, 12.

¹⁶ Van den Broeke Witness Statement, ¶ 2.10; Pirijns Witness Statement, ¶ 2.2.

¹⁷ Pirijns Witness Statement, ¶ 2.1.

¹⁸ Van den Broeke Witness Statement, ¶ 2.10; Pirijns Witness Statement, ¶ 2.2.

¹⁹ Pirijns Witness Statement, ¶ 2.3.

²⁰ Pirijns Witness Statement, ¶ 2.4.

²¹ Pirijns Witness Statement, ¶¶ 2.3-2.4.

²² Pirijns Witness Statement, ¶ 2.5.

and bitumen delivery vehicles and (ii) as another possible product that they could deliver to the west African market.²³

45. Mr. Pirijns led this exercise, meeting with manufacturers of small-scale LNG plants in China and the United States.²⁴ That investigation confirmed that small-scale LNG plants were available and cost-effective, and that cryogenically insulated trucks could cost-effectively deliver that LNG for more than 1,000 miles, reaching much of the Economic Community of West African States (“ECOWAS”).²⁵
46. Commercially, the business plan was simple. While Nigeria has tremendous oil and gas resources, its infrastructure is designed to export that oil and gas by sea in the Nigerian south. As a result, businesses outside the Nigerian south depend on expensive diesel, environmentally unfriendly coal, and a limited and unreliable electricity grid. Moreover, even in the south, where gas pipelines exist, the service can be inconsistent due to low pressure and supply disruptions.²⁶
47. By acquiring and liquefying cheap natural gas in the Nigerian south, Greenville could deliver reliable and inexpensive LNG to energy intensive businesses throughout Nigeria and the ECOWAS.²⁷ Energy intensive industries throughout the region — including companies operating in the power, steel, cement, chemicals, glass and plastics sectors — were natural customers.²⁸
48. Greenville’s offer, as the Nigerian operating entity for the LNG business, was to provide an LNG storage tank and vaporizer (*i.e.*, a regasification unit) on site at each customer.²⁹ It would then deliver LNG by cryogenic truck from its liquefaction facility to the

²³ Pirijns Witness Statement, ¶ 2.6.

²⁴ Pirijns Witness Statement, ¶¶ 2.7-2.9.

²⁵ Pirijns Witness Statement, ¶¶ 2.10-2.11.

²⁶ Sahajwalla Witness Statement, ¶¶ 6-8; Helsen Witness Statement, ¶¶ 24-25.

²⁷ Sahajwalla Witness Statement, ¶¶ 14-19.

²⁸ Sahajwalla Witness Statement, ¶¶ 14-19.

²⁹ Sahajwalla Witness Statement, ¶ 8.

customer's storage tank, ensuring that the customer always had an adequate LNG supply to draw against in order to meet its energy needs.³⁰ Essentially the same virtual pipeline technology that has been successfully implemented in the United States and China.

49. The compelling features of this offer were price and reliability. For the same energy content, Greenville could sell LNG for a much lower cost than its main competing fuel, diesel. And because Greenville's liquefaction plant could be built at a major gas pipeline node, Greenville would have a reliable feedstock to go along with the group's experience and reputation in reliable logistics. With this offer, Greenville's marketing team have faced extraordinary demand from customers.³¹
50. Claimants just needed a reliable liquefaction plant.
51. By early August 2014, Mr. Pirijns and his team had narrowed the field of potential suppliers of the liquefaction facilities to two Chinese suppliers, Sichuan Air Separation Group ("SASPG") and enCryo Engineering ("enCryo").³² The intent was to begin by purchasing all of the equipment needed to produce approximately 1,500 metric tons of LNG per day ("TPD"), an amount equivalent to 0.50 million tons per annum ("MTPA").³³ Both entities had delivered small-scale liquefaction projects that were in operation.³⁴
52. The competing offers from SASPG and enCryo were commercially reasonable. SASPG offered to do virtually everything — to design, supply and construct in Nigeria the entire liquefaction plant, including the gas purification system, the liquefaction units, the LNG

³⁰ Sahajwalla Witness Statement, ¶ 8.

³¹ Sahajwalla Witness Statement, ¶ 15, Appendix A.

³² Pirijns Witness Statement, ¶¶ 3.1-3.3.

³³ Pirijns Witness Statement, ¶ 3.1.

³⁴ Pirijns Witness Statement, ¶¶ 2.7, 3.3.

storage tanks and the truck loading gantries — for US\$ 66 million.³⁵ Under SASPG's proposal, Claimants just had to provide the land, the civil works and the power station.³⁶

53. enCryo's proposal was similar to SASPG's.³⁷ enCryo offered to design and supply in Nigeria the liquefaction plant, including the gas purification system, the liquefaction units, and the refrigeration units, for US\$ 47.68 million.³⁸ Under enCryo's proposal, Claimants had to provide the land and power station as well as the LNG storage tanks and the truck loading gantries.³⁹ Claimants also were responsible for civil works and installation of the liquefaction plant, but enCryo would provide site supervision, training, and support for commissioning and start up.⁴⁰
54. Both SASPG and enCryo, however, required at least 18 months to fabricate and install the LNG plant that each was offering to supply.⁴¹ This was problematic because Greenville was simultaneously negotiating with the Federal Ministry of Power of Nigeria to supply LNG to a power plant it was building in Kaduna State, the Kaduna Power Plant ("KPP").⁴² That plant was being built in a place that did not have access to a natural gas pipeline, and would otherwise have to be operated on diesel.⁴³ KPP was scheduled to be completed in late 2015, and Greenville needed to be able to assure the Ministry that it could supply LNG by that time. The Ministry's focus on performance may well have been the result of prior findings of corruption by GE's partner in the Nigerian power sector.⁴⁴

³⁵ Pirijns Witness Statement, ¶ 3.4; Exhibit C-9.

³⁶ Exhibit C-9.

³⁷ Pirijns Witness Statement, ¶ 3.6.

³⁸ Exhibit C-10.

³⁹ Exhibit C-10.

⁴⁰ Exhibit C-10.

⁴¹ Van den Broeke Witness Statement, ¶ 6.4; Pirijns Witness Statement, ¶¶ 3.4, 3.8.

⁴² Van den Broeke Witness Statement, ¶ 5.5; Pirijns Witness Statement, ¶ 3.2.

⁴³ Van den Broeke Witness Statement, ¶ 4.4; Pirijns Witness Statement, ¶ 2.17.

⁴⁴ GE, the prime contractor on KPP, had partnered with a Nigerian company — Rockson Engineering — to win this mandate shortly after Rockson had been found by a Nigerian Parliamentary corruption investigation to have participated in a corrupt scheme to secure contracts on power projects at highly

55. Thus, to obtain KPP as a buyer, Greenville was under pressure to have an operational liquefaction plant by the end of 2015. On August 5, 2014, while Mr. Van den Broeke and his team were in China trying to reach agreement with SASPG or enCryo, a GE representative from Texas appeared at enCryo's offices with an offer that solved this timing problem.⁴⁵

D. GE's Misrepresentations to Claimants Before Contract Execution

56. On August 5, 2014, David Gordon, a representative of GE, appeared at enCryo's offices. Mr. Gordon had been the president and CEO of a small Texas company called Salof, which had a long history manufacturing fully-modularized, skid-based CO₂ liquefaction units, and had been working with Shell since 2011 to develop a fully-modularized, skid-based, 0.25 MTPA, LNG liquefaction plant.⁴⁶ Salof had a 50 percent interest in enCryo. In 2013, Salof and hence its interest in enCryo, was acquired by GE.⁴⁷
57. During the meeting, Mr. Gordon explained that GE had recently manufactured a fully-modularized small scale LNG plant for Shell, but Shell no longer wanted the plant and had given GE the mandate to sell it.⁴⁸ Because the plant was capable of producing 0.25 MTPA of LNG, it could meet one-half of the Claimants' initial needs and was the answer to their timing problem.
58. That night, and over the ensuing days, Claimants' team had a series of communications with Mr. Gordon and GE. Mr. Gordon explained that GE could quickly build a second, matching plant for Claimants using the existing designs. He further explained that with GE's modular design, "*all of the individual components are pre-tested and mounted on a*

inflated prices, using GE turbines. See Exhibit C-744 at p. 264 ("*Rockson Engineering/Rockson International The Committee recommends that the company should be further investigated by EFC and ICPC with a view to recovering huge sums fraudulent received on power project contracts.*"); see also Exhibits C-745 to C-747.

⁴⁵ Van den Broeke Witness Statement, ¶¶ 6.5-6.10; Pirijns Witness Statement, ¶¶ 3.7, 3.9-3.10.

⁴⁶ Pirijns Witness Statement, ¶¶ 2.8-2.9; Griffin Witness Statement, ¶ 3.1.

⁴⁷ Griffin Witness Statement, ¶ 5.2; Exhibit C-748.

⁴⁸ Van den Broeke Witness Statement, ¶ 6.8; Pirijns Witness Statement, ¶ 3.10.

series of skid-based modules that are shipped in ready-for-erection fashion, enabling the buyer to simply position them side-by-side at the site in a simple erection process.”⁴⁹

59. Believing GE’s assurances that the Shell plant was available within a matter of months, and that GE could quickly replicate it, Claimants ended their discussions with the Chinese suppliers and planned to meet Mr. Gordon in Texas when he would return there, at the end of August.⁵⁰
60. Several weeks later, after Claimants had left China and in the days immediately before they were to go to Texas, Mr. Gordon emailed that Shell might not be selling its plant after all.⁵¹ Claimants’ team arrived in Texas to an email that Shell was not willing to discuss selling the plant.⁵² GE had gotten Claimants away from their Chinese suppliers and into Texas, with nearly a month of time lost.
61. In Texas, GE showed Claimants the Shell plant at the ex-Salof facilities in Schertz, Texas, and proposed to use the same engineering and design to build two new plants for Claimants.⁵³ GE promised that this would be even better because those plants would be customized for the Nigerian tropical climate, the heavier Nigerian feed gas composition, and be modified from 60 Hz to 50 Hz.⁵⁴ Mesgina Risat, GE’s sales representative for, *inter alia*, Nigeria, said he was well aware of Nigeria’s gas composition because of all the work that GE does in Nigeria, including on the many compressors and turbines operating on the gas pipeline network.⁵⁵ GE bragged about the advantages of their fully modular design,

⁴⁹ Pirijns Witness Statement, ¶ 3.12.

⁵⁰ Van den Broeke Witness Statement, ¶¶ 6.11-6.12; Pirijns Witness Statement, ¶ 3.13.

⁵¹ Pirijns Witness Statement, ¶ 4.1; *See* Exhibit C-28.

⁵² Van den Broeke Witness Statement, ¶ 6.12; Pirijns Witness Statement, ¶ 4.2; *See* Exhibit C-29.

⁵³ Van den Broeke Witness Statement, ¶¶ 6.13-6.15; Pirijns Witness Statement, ¶¶ 4.3-4.5.

⁵⁴ Van den Broeke Witness Statement, ¶ 7.18; Pirijns Witness Statement, ¶ 4.6.

⁵⁵ Van den Broeke Witness Statement, ¶ 7.19.

which would eliminate the need for construction in Nigeria and reduce each of installation and commissioning time to three months or less.⁵⁶

62. Over the following days, the GE sales team made a series of representations and assurances to close the sale.

- Mr. Risat touted his familiarity with the composition of the gas in Nigeria, and also said he was familiar with the Kaduna Power Plant because GE was involved with it;⁵⁷
- Alesandro Bresciani and Mr. Risat assured Claimants that GE would build them new plants to the same quality and standard as the Shell plant;⁵⁸
- GE assured Claimants that in order to meet their urgent schedule, GE would use the already completed designs for the Shell plant, varied only to address the different feed gas composition, the tropical realities of the Nigerian climate and to accommodate 50 Hz instead of 60 Hz voltage frequency;⁵⁹
- everyone from GE assured Claimants that the entire plant would be modular and designed for ease of installation, with all modules individually tested at the fabrication plant before shipping, all to reduce the amount of installation and commissioning time in Nigeria;⁶⁰
- because unlike SASPG and enCryo, GE was not proposing to provide the balance of plant, GE committed to coordinate fully with Claimants and whatever suppliers of other equipment that they chose to ensure compatibility and coordination of the entire project.⁶¹ Mr. Shukui even offered to meet vendors with Claimants and released an email with a list of potential equipment suppliers that he fully trusted;⁶²
- because GE's proposed price was substantially higher than the prices to be charged by SASPG and enCryo, Mr. Bresciani and Erik Barton justified their higher price because of GE's superior "American quality" and because Claimants' trains would receive

⁵⁶ Van den Broeke Witness Statement, ¶¶ 7.27-7.28; Pirijns Witness Statement, ¶ 4.11.

⁵⁷ Van den Broeke Witness Statement, ¶ 7.19.

⁵⁸ Van den Broeke Witness Statement, ¶¶ 7.1, 7.5.

⁵⁹ Van den Broeke Witness Statement, ¶ 7.18; Pirijns Witness Statement, ¶ 4.6.

⁶⁰ Van den Broeke Witness Statement, ¶¶ 7.27, 6.14, 7.30; Pirijns Witness Statement, ¶ 4.11.

⁶¹ Pirijns Witness Statement, ¶ 5.10.

⁶² Exhibits C-749 and C-750.

priority treatment for the fabrication facility at Schertz where the Shell plant had been built;⁶³

- Mr. Bresciani told Claimants that because of the full modularization of the GE plants, they would not need to hire an EPC contractor since installation simply required the interconnection of the skids;⁶⁴
- Mr. Risat echoed Mr. Bresciani, representing that with GE's new modular technology, the modules would come fully built and factory tested, requiring Claimants only to connect the skids to the pipe rack, a process that would take less than three months to install and three months to pre-commission and commission;⁶⁵ and
- after initially saying GE would require ten months to deliver the first train and thirteen months to deliver the second, Mr. Bresciani and Mr. Risat assured the Claimants that GE would be able to deliver the two trains in nine and twelve months, respectively.⁶⁶

63. These assurances meant that Claimants would have an operating LNG plant producing 0.25 MTPA of LNG by the end of 2015, and a second train increasing that volume to 0.50 MTPA by early 2016. Claimants were convinced; GE had them “hooked.”

64. On August 27, 2014, Claimants sent GE the feed gas composition to which the plants should be designed.⁶⁷ That instruction has never been altered by Claimants.

65. During these meetings in August, the parties also discussed Claimants' need to operate the project in “island mode” with its own power plant, *i.e.*, completely disconnected from the unreliable Nigerian electricity grid.⁶⁸ In this regard, the parties discussed GE's potential power solutions, which GE wanted to sell as well.⁶⁹

⁶³ Van den Broeke Witness Statement, ¶¶ 7.5, 7.7, 7.24, 7.25.

⁶⁴ Van den Broeke Witness Statement, ¶¶ 7.26-7.28.

⁶⁵ Van den Broeke Witness Statement, ¶ 6.14, 7.28.

⁶⁶ Van den Broeke Witness Statement, ¶¶ 7.2-7.3; Pirijs Witness Statement, ¶¶ 4.12, 5.8.

⁶⁷ Pirijs Witness Statement, ¶ 4.8; Exhibit C-31.

⁶⁸ Van den Broeke Witness Statement, ¶ 9.1.

⁶⁹ Exhibit C-38.

66. During the first two weeks of September, the parties negotiated the contract. On September 4th, GE assured Claimants' representatives that there were "[n]o issues on 50 Hz" and that with the "[c]urrent gas composition there is not much heavy hydrocarbons to be recovered."⁷⁰ This latter point is particularly important because it meant that there would be minimal unstabilized condensate to be flared and nearly full conversion of the feed gas into LNG.
67. GE's initial price demand was US\$ 110 million for the two trains, without the balance of plant that SASPG and enCryo were offering.⁷¹ The parties ultimately agreed on a price of US\$ 95 million for two trains that were just like the Shell train, varied only to address the different feed gas composition provided by Claimants, the tropical realities of the Nigerian climate and to accommodate 50 Hz instead of 60 Hz voltage frequency.⁷² During the negotiations (and throughout the project), both parties referred to the Shell train as the "Reference Plant."⁷³ Taking into account the greater scope of the SASPG and enCryo proposals, this price was approximately double the amount of those alternatives.
68. GE used Claimants' sense of urgency to close the deal quickly. GE obtained a letter agreement from IEC on September 6, 2014, under which GE would "*begin engineering, procurement and manufacturing of the scope of work ... in order to be able to meet delivery schedules.*"⁷⁴ IEC agreed that it would pay GE up to US\$2 million for that work if a contract was not signed within six days, by September 12th (or thereafter, if agreed).⁷⁵

E. The Contracts

69. On September 13, 2014, Claimants entered into contracts with the Respondents for the supply of two fully-modularized LNG trains and in-country support services for their

⁷⁰ Exhibit C-751.

⁷¹ Van den Broeke Witness Statement, ¶ 7.5.

⁷² Van den Broeke Witness Statement, ¶ 7.6.

⁷³ Van den Broeke Witness Statement, ¶ 7.5; Pirijns Witness Statement, ¶ 4.5.

⁷⁴ Exhibit C-11.

⁷⁵ Exhibit C-11.

installation, start-up, commissioning and testing, as well as employee training, that are at issue in this arbitration (the “**Contracts**”). Relevant terms of the Contracts are summarized below.

1. The Equipment Contract

70. Under the “*Contract for the Sale of Two Small Scale (SCMR) LNG Plants*,” GE sold to IEC two fully-modularized LNG plants for use in Nigeria for US\$ 95 million (the “**Equipment Contract**”).⁷⁶ As explained below, the two plants were guaranteed to be delivered in their entireties on June 13 and September 13, 2015, respectively. Each plant was, *inter alia*, guaranteed to produce 0.25 MTPA of LNG. Each plant was guaranteed to be defect-free, with all of the parts inspected and tested before delivery. Each plant was to comply with engineering and safety codes and standards. And, given their intended use in the harsh Nigerian tropical climate, each plant was to be properly tropicalized. Meeting all of these requirements — (i) the full modularity, (ii) the delivery dates, (iii) the production volume guarantee, (iv) defect-free and (v) tropicalization for the harsh Nigerian environment — were among GE’s most fundamental obligations under the Equipment Contract.
71. GE was not entitled to change these, or any of the other, contractual terms unilaterally. In fact, the Equipment Contract has very specific terms governing any changes. Clauses 2 and 24 of the Equipment Contract govern changes under that contract. Clause 2 states that any request by IEC that impacts the Contract Price or the Delivery Date is subject to Clause 24 and that the request “*shall not relieve Seller from its responsibility for delivering the Plant in accordance with the Agreement.*”⁷⁷ Clause 24.1 states that either party is entitled “*to request Changes,*” but Clause 24.2 ordains that “*if Buyer and Seller are unable to agree on the Proposal for Change Order, Buyer shall have the right to refuse to issue the Change Order*” and that “*No change shall be made by Seller without a Change Order from*

⁷⁶ Exhibit C-1.

⁷⁷ Exhibit C-1, Clause 2.

- Buyer.*⁷⁸ In other words, GE cannot unilaterally change price, time, work scope or deliverables under the Equipment Contract.
72. IEC approved only a handful of change orders.⁷⁹ Moreover, except for an 11-day extension of time in Change Order No. CO-019, none of the agreed Change Orders altered any of the five obligations identified above.⁸⁰ The contractual terms regarding each of the five fundamental obligations are summarized below.
73. (i) Fully-Modularized: Full modularity was an essential feature of the parties' agreement. As explained above, central to GE's sales pitch was a commitment that its plants would be quick and simple to install in Nigeria.
74. The Equipment Contract highlights this essential feature. The first three recitals of the Equipment Agreement focus entirely and exclusively on GE's representation that IEC is purchasing fully-modular small-scale LNG production plants that GE has already developed: "*Seller has developed and is producing fully-modular small scale LNG production plants ...; Seller desires to sell to Buyer two (2) such Plants ...; Buyer desires to purchase the two (2) Plants from Seller.*"⁸¹
75. Then, the very first clause of the Equipment Contract — Clause 1 — defines the term "*Plant*" as "*the fully-modular small scale LNG production plants being sold and to be delivered by Seller under this Agreement,*"

⁷⁸ Exhibit C-1, Clauses 24.1 & 24.2 (emphasis added).

⁷⁹ GE's Statement of Counterclaim asserts that "*IEC issued multiple change orders.*" Statement of Counterclaim, ¶ 72(i). Nothing is cited for this assertion, which is untrue. Claimants did not issue change orders (although they approved a handful sought by GE), and they expected GE to comply with its contractual obligations.

⁸⁰ Exhibit C-752.

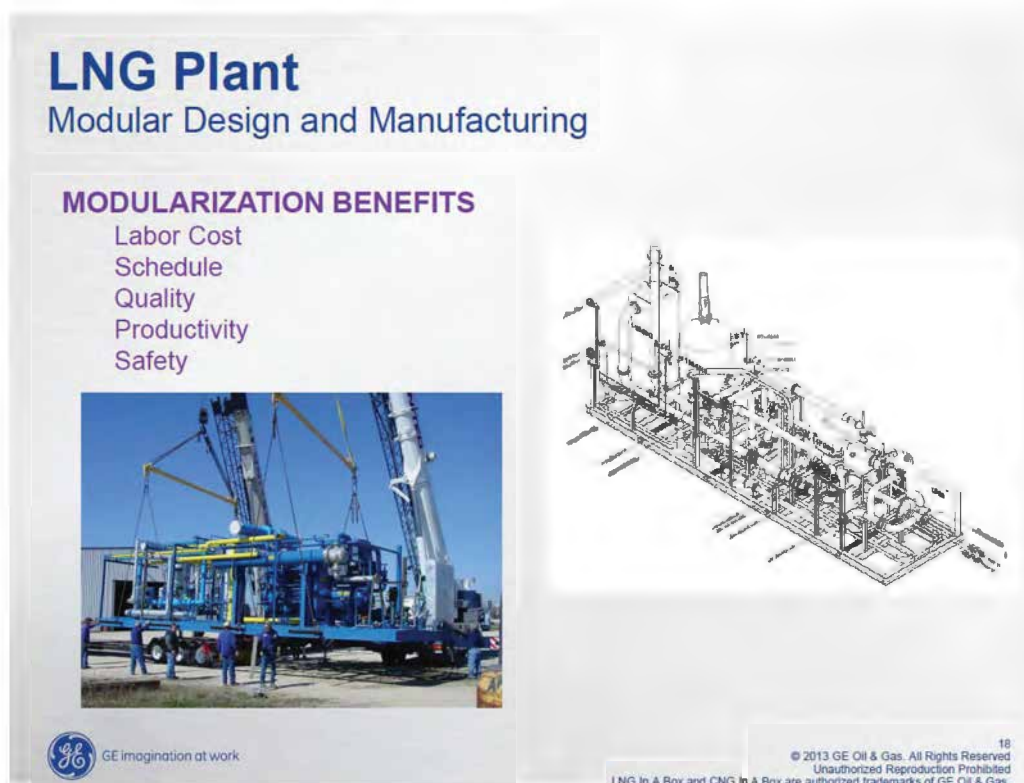
⁸¹ Exhibit C-1, Recitals. The recitals are enforceable terms of the Equipment Contract. See Cl. 1.5 of Exhibit C-1 (stating "*This Agreement document, inclusive of the Recitals and Clauses 1 -33*" are part of the agreement and take precedence over the appendices to the Agreement.)

76. Appendix A to the Equipment Contract further explains that:⁸²

All major equipment, piping, valves, electrical and instrument components shall be prefabricated and installed on skidded modules. These modules shall be insulated (where required by process and/or ambient conditions), painted and tested in the shop to reduce the Site installation work, ensure quality, and shorten the project delivery cycle.

77. Appendix A further explains that “All instrumentation on the Seller manufactured skids is wired to on-skid remote I/O cabinets for quick and easy field installation.... Skid electrical ... will be wired on the skids. Main segment cables will be disconnected for shipment and re-installed in the field, allowing for a quick and efficient re-installation.”⁸³

78. GE’s July 16, 2014 public presentation shows what fully-modular means:⁸⁴



⁸² Exhibit C-1, Exhibit A, ¶ 3.1.1. (emphasis added)

⁸³ Exhibit C-1, Exhibit A, ¶ 3.6.9.

⁸⁴ Exhibit C-753 at Slides 18, 19, 23.

Mechanical interface



Module Setup and Installation



79. As explained below and in the Lancaster Expert Report, GE did not deliver fully-modularized plants. Rather, it delivered partially assembled skids with loose parts thrown in and many more required parts delivered separately in the ensuing years up to the present.
80. *ii. Nine and Twelve Month Delivery Deadlines*: Delivery dates were an equally essential requirement for Claimants. Greenville was expecting to begin serving customers by the end of 2015. GE enticed Claimants away from far less expensive Chinese suppliers by promising much shorter delivery periods than the Chinese competitors could meet.
81. Clause 5 of the Equipment Contract states that “*Seller shall sell and deliver the Plants (and Technical Documentation) to Buyer by their respective Delivery Dates*” The Equipment Contract defines “*Delivery Dates*” as nine months from the Effective Date for the first plant and twelve months from the Effective Date for the second plant.⁸⁵ Because the Effective Date is defined as September 13, 2014, the first plant was required to be delivered on June 13, 2015, and the second plant was required to be delivered on September 13, 2015.
82. Pursuant to Clauses 2 and 24 of the Equipment Agreement, described above, these dates are immutable unless IEC and GE both agree to change them. And in fact, with one exception of an 11-day extension, no change orders were issued that provided for extensions of time.⁸⁶ Accordingly, the contractually mandated Delivery Dates for the two trains were adjusted to June 24, 2015, and September 24, 2015.
83. On those dates, GE was obligated to deliver to IEC a fully-modularized, tested and operable Plant. Clause 9.1 emphasizes that delivery is not achieved if anything (including components or documentation) is missing:⁸⁷

The Delivery Date for each Plant is the date on which Plant in its entirety is delivered in accordance with this Clause. For the avoidance of doubt,

⁸⁵ Exhibit C-1, Clause 1 (definition of “*Delivery Date*”).

⁸⁶ Exhibit C-752. This Change Order also gave relief on the Train 1 boil off gas equipment, only, until July 31, 2015.

⁸⁷ Exhibit C-1, Clause 9.1 (emphasis added).

delivery of a Plant for purposes of the Delivery Date shall occur only when the Seller has complied with all of its delivery obligations for the Plant in its entirety.

84. Moreover, Clause 3.1.1 of Appendix A to the Equipment Contract mandates that prior to delivery, the “*modules shall be ... tested in the shop to reduce the Site installation work.*”⁸⁸ Clause 15.1 of the Equipment Contract further specifies that delivery shall occur after GE has tested the Plant in accord with its Inspection and Test Plans (“ITP”): “*Unless Buyer shall otherwise direct, no Plant shall be delivered without having been tested in accordance with the Inspection and Test Plans as provided in Appendix A.*”⁸⁹ GE’s ITP required, *inter alia*, GE to conduct a final walk down of each module and to identify any punch list items for the module.⁹⁰
85. Under the Equipment Contract, therefore, GE was required to deliver fully functional, factory-tested skids that could then be connected together in the field into a fully functioning liquefaction plant. As explained below, GE falsified the factory inspection and test reports, and sent IEC incomplete and inoperable skids. In 2019, GE is still sending parts that were never provided and revising designs to fix fundamental system flaws that leave each module currently incomplete.
86. *iii. Production of 0.25 MTPA of LNG:* GE marketed fully-modularized small scale LNG plants in different sizes, capable of producing different volumes of LNG. IEC contracted for two plants, each of which would produce 0.25 MTPA, the equivalent of 759 TPD: +/- 32 truckloads worth of LNG per plant per day.
87. Clause 4.1 of Appendix A to the Equipment Contract states that the “*Guaranteed Performances per Plant are set out in Annex B (in the tables entitled ‘Plant Summary’ and*

⁸⁸ Exhibit C-1, Appendix A, Clause 3.1.1 at p. 7 of 31.

⁸⁹ Exhibit C-1, Clause 15.1.

⁹⁰ Exhibit C-754.

*'100') and are as follows: (i) the LNG Throughput Capacity shall be the 'LNG @Tank Inlet' as set out in Annex (B) (which at the Effective Date shall be 765.1 TPD)...'*⁹¹

88. Clause 4.1 further states that this Guaranteed Performance may vary if changes are made to the *"Basis of Design"* (**"BoD"**), but that IEC must approve any such change in writing.⁹²
89. The BoD is attached to Appendix A of the Equipment Contract at Annex A. Clause 1.1 of Appendix A explains that the BoD *"for the Plants was developed by Seller from the 'request for proposal' documents provided by Buyer."*⁹³ A copy of IEC's request for proposal document, on which the BoD is based, is exhibited at Exhibit C-32.
90. Annex B to Appendix A of the Equipment Contract is a Process Flow Diagram, which *"was developed from that BOD for the Design Case only."*⁹⁴ Annex B is the document containing the Guaranteed Performances that is referenced in Clause 4.1 of Appendix A. According to Clause 4.1, any change in the BoD that triggered a change in the Performance Guarantees would require GE to propose an update to Annex B which, if IEC agreed in writing, would replace the original Annex B, thereby amending the Equipment Contract.⁹⁵
91. Annex B was never replaced.⁹⁶ It remains a binding part of the Equipment Contract.
92. Annex B, at first glance, is a complicated diagram. The Plant Summary table to the left of the page explains that, for each Plant, Claimants will need to provide 36.28 MMSCFD (million standard cubic feet per day) of feed gas in order to generate 765.1 TPD (tons per day) of LNG and 8.562 TPD of unstabilized C3+ condensate.⁹⁷ Absent further processing,

⁹¹ Exhibit C-1, Appendix A, Clause 4.1.

⁹² Exhibit C-1, Appendix A, Clause 4.1.

⁹³ Exhibit C-1, Appendix A, Clause 1.1.

⁹⁴ Exhibit C-1, Appendix A, Clause 1.1.

⁹⁵ Exhibit C-1, Appendix A, Clause 4.1.

⁹⁶ Annex B was sent again on October 9, 2014. *See* Exhibit C-254.

⁹⁷ *See* Exhibit C-45 (identifying 36.28 MMSCFD of feed gas (left green arrow), 765.1 TPD of LNG (right green arrow), 8.562 TPD of unstabilized C3+ condensate (yellow arrow)).

unstabilized C3+ condensate is a waste byproduct to be flared. The diagram filling most of Annex B is a high-level summary of how one Plant will process that 36.28 MMSCFD of natural gas into 765.1 TPD of LNG.

93. As explained below, the Plants supplied by GE — even if they were not so defective that they cannot even be started up — were designed by GE to produce far less LNG and far more unstabilized C3+ condensate than specified in Annex B. GE knew at the time it executed the Equipment Contract, or shortly thereafter, that the Plants could not meet the performance specifications in Annex B. GE misrepresented the lesser capability of the Plants, concealing this fact from Claimants until years later; only in late 2016 did GE inform Claimants that they needed to purchase additional, costly equipment to achieve the agreed production levels. At great expense — over US\$ 19.8 million — IEC has purchased and installed that equipment.⁹⁸
94. *iv. Defect Free*: Under Clause 17.1 of the Equipment Contract, GE “warrants to Buyer that the Plants and/or Parts shall be free from Defects in material, workmanship and title and in accord with any mutually agreed specifications including those set forth in Appendix A.”⁹⁹
95. Clause 17.4 further explains that if GE “*fails or is unable to remedy a Defect within a reasonable time,*” it will be liable for all “*direct damages in accordance with the Agreement incurred as a result of Seller’s failure or inability to remedy the Defect.*”¹⁰⁰
96. As explained below, both Plants suffer from innumerable Defects, many of which render the Plants inoperable and unsafe. GE has been unable to fix many of these Defects, and senior GE representatives admitted during a high-level meeting with Claimants on February 12-13, 2019 that they have no solutions for some and will need to deliver new, long-lead equipment to solve others. Thus, GE admitted last month, *inter alia*, that on each

⁹⁸ Helsen Witness Statement, ¶ 53.

⁹⁹ Exhibit C-1, Clause 17.1. “*Defects*” is defined in Clause 1 to mean “*a failure to meet any warranty set forth in Clause 1.7 (even if apparent before Taking Over).*”

¹⁰⁰ Exhibit C-1, Clause 17.4.

Train: (i) they need to fix 37 piping systems that suffer from unacceptable stress levels; (ii) they need to replace major electrical cables; (iii) their system to start the MRCs (the heart of the cooling process) is a failure and has to be completely replaced; (iv) 11 pressure relief valves (“PRVs”) have back pressure issues and must be retrofitted with additional equipment; (v) the piping to the flare needs to be redesigned and (vi) the automation required to operate the Trains does not work and there is not yet a plan to fix it.¹⁰¹

97. These critical items aside, GE’s “punch list” has thousands of entries, many of which remain unremedied. For modules that were required to have been inspected and pre-tested before delivery, the number of Defects — alone — evidences gross negligence and willful misconduct.
98. *v. Tropicalization*: Under Clause 13.2 of the Equipment Contract, GE agreed that the “Plants shall be brand new [and] shall be treated to resist deterioration due to the normal prevailing local conditions on Site in accordance with the mutually agreed specifications of Appendix A.”¹⁰²
99. As explained below, both Plants were delivered without proper tropicalization features, such as protection of metal parts from corrosion and protection of electrical parts from driving tropical rainstorms.

2. The Services Contract

100. The Services Contract, entered the same day as the Equipment Contract, reiterates that Claimants purchased two “fully-modular small scale LNG production plants ... for deployment in Nigeria.”¹⁰³

¹⁰¹ Exhibit C-243 (Respondents’ revisions to Claimants’ draft Minutes of meeting on February 12-13, 2019). All six items are recognized in Claimants’ original draft as well as Respondents’ revisions.

¹⁰² Exhibit C-1, Clause 13.2.

¹⁰³ Exhibit C-2, Recitals.

101. The recitals further state that GE Nigeria will provide “*on-site supervision in Nigeria of the installation, start-up, commissioning and testing of the Plants ... to ensure that the Plants are properly installed and function to their designed and warranted capacities.*”¹⁰⁴
102. And further, the recitals represent that GE Nigeria “*is prepared and competent to provide the Services.*”¹⁰⁵
103. The Services Contract also provides that the time needed for installation, start-up, commissioning and testing should not be more than six months. Thus, it defines the “*Time for Completion*” as “*the date by which Taking Over of a Plant should be scheduled to occur, which the Parties agree should be latest six (6) Months after the Commencement Date.*”¹⁰⁶
104. The “*Commencement Date*” is defined as the date when the services begin,¹⁰⁷ and the “*Taking Over*” date is the date when the Train has been commissioned and passed all Acceptance Tests.¹⁰⁸ The Services Contract thus reinforces and confirms GE’s representations that with fully-modular Trains, the maximum time for installation, start-up, commissioning and testing of each Train should be no more than six months.
105. Moreover, if “*at any time, the actual progress is not consistent with meeting the Time for Completion ... Services Provider shall promptly inform Buyer and shall produce, within ten (10) Working Days, a report*” that identifies the likely period of delay, the event causing the delay, the impact of the delay and other information.¹⁰⁹ GE Nigeria (and GE) never provided Claimants with such a report.

¹⁰⁴ Exhibit C-2, Recitals.

¹⁰⁵ Exhibit C-2, Recitals.

¹⁰⁶ Exhibit C-2, Clause 1.1.

¹⁰⁷ Exhibit C-2, Clause 1.1.

¹⁰⁸ Exhibit C-2, Clause 15.1.

¹⁰⁹ Exhibit C-2, Clause 6.2.

106. The Services Contract also reinforces and confirms that with fully modular trains, the installation work will be simple and not require much oversight.
107. Thus, the “*Services Contract Duration*” is “*in respect of each Plant, a period of thirteen (13) Weeks of Worked Hours.*”¹¹⁰ “*Worked Hours*” is defined as “*hours effectively worked by the Employees to perform the Services.*”¹¹¹ Thus, the Services Contract anticipated that GE’s fully-modularized trains would each require no more than thirteen man-weeks of time to supervise the installation, start-up, commissioning and testing of each Train, as well as training Claimants’ employees.
108. Unsurprisingly, the definition of “*Worked Hours*” also establishes that only those hours in which GE Nigeria’s employees were actually performing the “*Services*” will count against the 13 man-weeks. GE Nigeria’s performance of tasks for GE — tasks such as completing fabrication of the Trains on-site in Nigeria and repairing defects in the Trains — are not attributable to the Services Contract.
109. The Services Contract required GE Nigeria to provide qualified personnel — “*specialists*” — to provide the services. Clause 5 identifies those specialists as “*a process specialist, an electrical specialist and a mechanical specialist.*”¹¹² GE Nigeria was entitled to subcontract portions of its work, but only to subcontractors who “*are fully experienced and properly licensed, equipped, competent and qualified.*”¹¹³
110. Finally, the Services Contract addresses changes. Clause 2 states that “*Buyer may issue to Services Provider requests which Buyer may consider necessary or helpful to Services Provider in the performance of Services Provider’s obligations under the Services*

¹¹⁰ Exhibit C-2, Clause 1.1.

¹¹¹ Exhibit C-2, Clause 1.1.

¹¹² Exhibit C-1, Clause 5.2.

¹¹³ Exhibit C-1, Clause 4.2.

*Agreement. If any such request impacts price or delivery, it constitutes a Change, and Clause 25 shall apply.”*¹¹⁴

111. Clause 25 then requires any Change to be mutually agreed and documented in writing, “*along with any equitable adjustments in the Contract Price or the Time For Completion.*”¹¹⁵ Absent an agreement in writing as to the nature of the Change and any resulting equitable adjustments, “*Services Provider is not obligated to proceed with the changed schedule or scope.*”¹¹⁶

F. The Chronology of GE’s Non-Performance of the Contracts

112. This project has failed because GE did not have the engineering or fabrication experience to build a fully-modularized small-scale LNG train, nor did it have an effective quality assurance team to ensure that what it shipped was properly manufactured and tested. Although GE represented to Claimants at the time of contracting that it could meet the stringent deadlines because these trains had already been developed, that assurance was knowingly untrue.
113. As Mr. Griffin’s witness statement makes clear, GE was struggling with the engineering and fabrication to assemble very similar trains for Shell. He explains, for example, that “*As of August 2014, eighteen months after the Elba Contract was signed, the engineering and fabrication were far behind schedule.*”¹¹⁷ He further explains that “*By July 2014, Shell was so frustrated with GEOG’s lack of performance to date that we escalated the matter to GEOG’s executive management, including GEOG’s CEO, Lorenzo Simonelli.*”¹¹⁸

¹¹⁴ Exhibit C-1, Clause 2.

¹¹⁵ Exhibit C-1, Clause 25.1.

¹¹⁶ Exhibit C-1, Clause 25.1.

¹¹⁷ Griffin Witness Statement, ¶ 2.10. *See generally* Griffin Witness Statement, *passim*. At paragraph 8.6, Mr. Griffin explains “*the Elba project continued to fall even further behind schedule from June to August 2014, prompting GEOG to issue a revised project schedule at the end of August.*”

¹¹⁸ Griffin Witness Statement, ¶ 8.8 (emphasis added).

114. GE's sales team knew the promises they were making were untrue. They knew what was happening with the Shell trains. And they were actually told the dates were impossible to achieve. As Mr. Van den Broeke explains, GE's senior on-site project manager confessed in April 2018 that "*GE always knew they could not meet the nine and twelve month time commitments that they had promised. GE knew because the former Salof executives (now GE employees post-merger) had told the GE sales team that it was impossible to meet the commitments that GE were making to IEC, and that a more realistic timeline would require at least 18 months or more before the Trains could be fully delivered.*"¹¹⁹
115. GE's Statement of Counterclaim attempts to shift responsibility for its misrepresentation by contending that Claimants lacked the ability to install the plants in Nigeria without the assistance of an EPC contractor. That assertion is not only shameless, but wrong and ironic.
- It is shameless because GE assured Claimants that with its fully-modularized trains, they did not need an EPC contractor.¹²⁰ Rather, with GE's technicians providing supervision of the installation, start-up and commissioning, GE represented that Claimants could assemble and begin operating each train with just thirteen man-weeks of GE supervision.¹²¹
 - It is wrong because Claimants were fully capable of hiring the right contractors to do everything except fix GE's delays and defects.
 - It is ironic because it was GE — which was responsible for engineering the trains, procuring all of the parts and then constructing them in a fully modular form — that lacked the engineering, procurement and construction skills to meet its obligations. Notably, GE's Statement of Counterclaim now admits it is merely a supplier of equipment and services, thus never having had the competence for the construction task

¹¹⁹ Van den Broeke Witness Statement, ¶ 8.9.

¹²⁰ Pirijns Witness Statement, ¶ 11.28; Van den Broeke Witness Statement, ¶¶ 7.26-7.30; Exhibit C-86 at pp. 6-7 ("*can IEC perform construction by themselves? Todd H[arig]: Yes.*") Mr. Harig — who thus confirmed that IEC could do the installation itself with no EPC contractor — is identified by Respondents as "*one of GEOG's most senior technicians.*" Statement of Counterclaim, ¶ 88.

¹²¹ Pirijns Witness Statement, ¶ 11.28; *see also* Exhibit C-2, Clause 1.1 (defining "Services Contract Duration" as a period of thirteen weeks of worked hours per train).

it promised: “*the GEOG Entities would never have agreed to such an arrangement [providing EPC services], as it would have been beyond their capabilities as a supplier of equipment and services.*”¹²² Indeed.¹²³

1. Claimants Developed Their Project As Timely As GE’s Performance Allowed

116. In 2014, and the first half of 2015, Claimants trusted that GE would fulfill its promises. After signing the Contracts with GE, Claimants proceeded to prepare for delivery of the two Trains.
117. Claimants acquired a 99-year lease on a 723,763 m² site to construct the project. It is large enough to accommodate up to seven liquefaction trains.¹²⁴ The site is adjacent to a major gas pipeline node, the Rumuji Node.¹²⁵ This land gave Claimants ready access to multiple sources of natural gas and room to expand.¹²⁶
118. Claimants also promptly obtained an allocation of 75 MMSFCD of natural gas from the Nigerian government’s gas aggregator, the GACN.¹²⁷ This was the volume of gas needed to produce 0.50 MTPA of LNG, the total volume of LNG that GE promised its two trains would deliver. The initial allocation by the GACN was issued in November 2014, and an amended allocation was issued in November 2015.¹²⁸
119. Further, because GE was not providing anything other than the liquefaction trains, Claimants went back to the various Chinese companies with whom they had earlier been negotiating for the full integrated LNG plant, to negotiate and contract for the balance of

¹²² Statement of Counterclaim, ¶ 11.

¹²³ See also Griffin Witness Statement, *passim* (explaining that GE’s efforts to engineer, procure and construct the same trains for Shell was disastrous).

¹²⁴ Pirijns Witness Statement, ¶¶ 8.3-8.4.

¹²⁵ Pirijns Witness Statement, ¶ 8.3.

¹²⁶ Pirijns Witness Statement, ¶ 8.5.

¹²⁷ Sahajwalla Witness Statement, ¶¶ 24-25; Pirijns Witness Statement, ¶ 8.6.

¹²⁸ *Id.*; Exhibits C-310, C-311.

- plant (“BOP”), including (i) pressurized storage tanks to store the produced LNG, (ii) truck loading gantries, (iii) cryogenic LNG carriers and LNG-powered trucks to haul the carriers.¹²⁹ During 2015, Claimants spent enormous sums on the BOP.¹³⁰
120. Claimants also promptly began investigating their power plant options.¹³¹ To do so, Claimants needed to understand the power demands of the GE equipment. During late August 2014, GE had recommended the purchase of GE turbines to power the project.¹³² This was a very expensive option, and one that GE ultimately conceded was not technically viable.¹³³ In May 2015, Claimants contracted with Wartsila (a preferred supplier of the IEC group because of the group’s past excellent experiences with it), depositing € 150,000, for the engineering of a power plant to be delivered on or before December 2015.¹³⁴
121. Claimants also began preparing for delivery of the GE modules. Claimants engaged Setraco to clear and survey the land, investigate the soil conditions, prepare the land for construction and prepare the civil layout drawings for the entire plant.¹³⁵ This was completed by March 2015.¹³⁶ By this time, Claimants had also installed the site management office.
122. To do more to prepare for the GE trains, Claimants needed information from GE. For example, to pour the concrete foundations on which each module would sit, Claimants needed GE to provide (i) the specific loads, elevations and anchor bolt positions of each module and (ii) the precise layout of each train, *i.e.*, the relative position of each module to

¹²⁹ Pirijns Witness Statement, ¶ 10.10; Exhibit C-75.

¹³⁰ In March 2015, Claimants and their consultant, Technip, also conducted a detailed HAZOP on the BOP. Pirijns Witness Statement, ¶ 10.11.

¹³¹ Pirijns Witness Statement, ¶ 11.10.

¹³² Pirijns Witness Statement, ¶ 4.10.

¹³³ Pirijns Witness Statement, ¶ 4.10.

¹³⁴ Pirijns Witness Statement, ¶ 11.11; Exhibit C-85. As explained in paragraph 207, below, GE interfered with this contract, ultimately obliging IEC to cancel it and purchase the power plant from GE.

¹³⁵ Pirijns Witness Statement, ¶¶ 10.1-10.5.

¹³⁶ Pirijns Witness Statement, ¶ 10.5.

the one next to it.¹³⁷ Without this information, Claimants could neither engineer the foundations nor know exactly where to construct them.¹³⁸

123. During the parties' Kick-off Meeting ("KoM") on September 13, 2014, Claimants emphasized that receiving this information was time sensitive because the site civil works needed to occur during the non-rainy season in Nigeria, between November and April of the year.¹³⁹
124. Although GE agreed to "*provide loads for each skid[]*" by October 15, 2014, it did not.¹⁴⁰ On November 20, 2014, Claimants reminded GE of its agreement, and the need for this information.¹⁴¹ On December 8, 2014, GE sent limited foundation load information for the pipe racks and some modules, but GE cautioned that "*this is preliminary information as it comes from the reference plant, but it should be +/- 10% when applied to the IEC plant.*"¹⁴² As Mr. Pirijns explains, GE's "*suggestion that we could proceed on information subject to change was unacceptable engineering practice, and precluded our ability to fully engineer the foundations and engage contractors.*"¹⁴³
125. GE did not provide engineered foundation loads and anchor bolt details for any of Claimants' modules until the end of February 2015, and that was for less than half of the train's modules.¹⁴⁴ In late March 2015, GE sent foundation load information for additional

¹³⁷ See Pirijns Witness Statement, ¶¶ 5.2-5.3.

¹³⁸ Pirijns Witness Statement, ¶ 8.8.

¹³⁹ Pirijns Witness Statement, ¶ 6.3(iii); Exhibit C-46 at p. 4.

¹⁴⁰ Pirijns Witness Statement, ¶ 6.3(xiii); Exhibit C-46 at p. 18.

¹⁴¹ Exhibit R-48 at Request 52 (RFI log).

¹⁴² Pirijns Witness Statement, ¶ 8.9; Exhibit C-56.

¹⁴³ Pirijns Witness Statement, ¶ 8.10.

¹⁴⁴ Exhibit C-755.

skids.¹⁴⁵ As of April 27, 2015, GE had still not provided the foundation loads or anchor bolt details for sixteen modules.¹⁴⁶

126. Critical among those sixteen modules were modules C-0201 and C-0202. These two modules were towers and, therefore, would require foundations with pilings driven into the ground.¹⁴⁷ As a result, their foundations needed to be among the first foundations installed in the sections in which they are located.¹⁴⁸ GE sent the engineering details for these modules in May 2015, seven months after they had been promised, two months before the contractual delivery time, and on the eve of the Nigerian rainy season.¹⁴⁹ Since a test pile would first need to cure for 28 days before the foundations could be laid, and the foundations would need to cure for another 28 days to reach full strength, there was no longer any space for error.
127. Meanwhile, in April 2015, Claimants received GE's fifth revision to the layout drawings, showing the relative position of the modules.¹⁵⁰ Among other changes, this revision changed the shape and/or location of several modules.
128. On May 22, 2015, within two weeks of receiving the engineering information for modules C-0201 and C-0202, Claimants' civil works contractor was mobilized and beginning work on the foundations.¹⁵¹ Claimants did this despite the rainy season and although Claimants could not be sure that GE would not send further revisions to the layout drawings because Claimants had not yet been told the Train 1 modules would not be delivered in June.¹⁵² (In

¹⁴⁵ Pirijns Witness Statement, ¶ 10.7; Exhibit C-68 (TM-0060, dated March 20, 2015); Exhibit C-69 (TM-0063, dated March 20, 2015).

¹⁴⁶ Exhibit C-756 (TM-0088, dated April 27, 2015).

¹⁴⁷ Pirijns Witness Statement, ¶ 11.3.

¹⁴⁸ Pirijns Witness Statement, ¶ 11.3.

¹⁴⁹ Pirijns Witness Statement, ¶ 11.3; Exhibit C-79 (TM-0091, dated May 6, 2015).

¹⁵⁰ Pirijns Witness Statement, ¶ 11.2; Exhibit C-78.

¹⁵¹ Pirijns Witness Statement, ¶ 11.5.

¹⁵² Pirijns Witness Statement, ¶ 11.5.

fact, GE did send further revisions in June, July and September 2015.¹⁵³) To accommodate the rainy season, Claimants incurred the additional costs of erecting temporary tenting over the poured concrete.¹⁵⁴

129. Indeed, the analysis of Mr. Lancaster shows that the concrete pads for both trains were completed before any of GE's modules, apart from the pipe racks, had been delivered.¹⁵⁵

2. Although Claimants Were Ready, GE Failed to Deliver Either Train On Time

130. With hindsight — and the benefit of Cody Lindsey's confession and Ed Griffin's testimony — it is apparent that GE could never have fulfilled its obligations to Claimants. By 2014, GE had not yet figured out the design or the fabrication methodology to build a fully-modular small-scale LNG train. In fact, GE still has not figured it out and, as a result, has closed its Schertz facility and appears to be exiting the business.
131. Between the date of contract execution and September 2015 — three months after the first train was supposed to have been delivered — GE changed the layout of the approximately 39 modules and over 20 items of equipment nine times.¹⁵⁶ Between contract execution and today, GE has changed the P&ID 12 times, including as recently as November 29, 2018.¹⁵⁷ And between contract execution and today, GE has changed the electrical one-line diagrams 9 times, including as recently as November 29, 2018.¹⁵⁸ GE does not have a proven design; rather, it is trying to figure things out as it goes.

¹⁵³ Pirijns Witness Statement, ¶¶ 11.7, 11.32, 12.2.

¹⁵⁴ Pirijns Witness Statement, ¶ 11.3.

¹⁵⁵ See Lancaster Expert Report, Section 7.8 and Ex. C-380; Pirijns Witness Statement, ¶ 12.5.

¹⁵⁶ Pirijns Witness Statement, ¶ 12.2; Exhibit C-95 (TM-0125, dated September 10, 2015).

¹⁵⁷ Pirijns Witness Statement, ¶¶ 7.5, 7.6.

¹⁵⁸ Pirijns Witness Statement, ¶ 7.5.

132. On November 22, 2014, GE provided Claimants with a Milestone Schedule, a Gantt chart showing its schedule for the project.¹⁵⁹ According to that schedule, the pipe racks for Train 1 should have been ready to ship in January 2015, with the various equipment modules and skids for Train 1 being ready to ship between February and early July 2015.¹⁶⁰
133. GE missed every one of those dates. The pipe racks and interconnecting pipes (“ICPs”) for Train 1, which GE was not even required to assemble, were not delivered to the port of export (FSA) until the end of March 2015.¹⁶¹ The first modules for Train 1 were not delivered until October 15, 2015, and the final modules were not delivered until February 2016, over seven months after the June 2015 deadline for delivery of the entire train.¹⁶² GE’s assertion in the Statement of Counterclaim that “*Train 1 was fully delivered at the Port of Houston on October 23, 2015*” is not true.¹⁶³
134. But even what was delivered late was not delivered complete. Literally thousands of parts — including hundreds of valves; hundreds of instruments; many hundreds of nuts and bolts, pipe supports and U-bolts; electrical cables; cable tray materials; heat tracing; insulation and more — were missing from what was supposed to be a “*fully-modularized*” train.¹⁶⁴ To make matters worse, even what was installed was frequently wrong. Because GE was engineering as (and after) it was building the modules, every change to the P&ID and every change to the electrical one-line diagram corresponded to a change to the supposedly complete modules. Effectively, these supposedly fully-modularized skids —

¹⁵⁹ Exhibit C-196; this Schedule was an update of the original schedule issued on October 15, 2014, which continued to govern the schedule for Train 2. *See* Exhibit C-757 (TM-0016, dated October 15, 2014).

¹⁶⁰ Exhibit C-196.

¹⁶¹ *See, e.g.*, Pirijns Witness Statement, ¶ 10.14; Lancaster Expert Report, Exhibit C-380.

¹⁶² *See, e.g.*, Pirijns Witness Statement, ¶¶ 12.5, 12.9; Srinivasan Witness Statement, ¶ 3.7; *see also* Exhibits C-99, C-100, and C-105; Lancaster Expert Report, *e.g.*, Section 7.8.2.1.1 & Exhibit C-380.

¹⁶³ Statement of Counterclaim, ¶ 74.

¹⁶⁴ *See, e.g.*, Pirijns Witness Statement, Part 14; Lancaster Expert Report, Section 6.1.

- which GE had represented could be installed and connected together within three months¹⁶⁵ — are being substantially assembled by GE on-site in Nigeria from 2016 through today.
135. Mr. Lancaster’s expert report tallies missing and changed parts, by skid and by date each part was ultimately delivered.¹⁶⁶ Mr. Lancaster cannot prepare a complete assessment because so many of the parts were delivered by GE without shipping records to identify where they belonged. As of today, necessary parts for Train 1 have still not been delivered.
136. Mr Griffin explains in his witness statement that Shell’s experience with GE was exactly the same. Mr. Griffin “*recall[s] instances in which GEOG would take parts from a skid of one train that had already been inspected and approved and move it to the skid of another train that needed the part, without replacing it on the first train. This meant we could never be confident that anything was ever really done.*”¹⁶⁷
137. Because the Shell projects that Mr. Griffin was overseeing were the only similar projects ever performed by GE (or Salof, its predecessor), GE’s performance on Claimants’ project is not surprising. What is surprising, however, is that GE represented to Claimants — falsely — that the tight schedule that it had provided to Claimants on October 15, 2014 “*was based on many assumptions from previous projects.*”¹⁶⁸ That was simply untrue. As Mr. Griffin explains, the schedule of the Shell projects was far longer, and GE knew it had been unable to come close to achieving even those much more generous schedules.¹⁶⁹
138. While the missing (and changing) parts for Train 1 have caused interminable further delay, they also revealed a serious quality control issue at GE. Every module was supposed to have been fully inspected by both GE and its fabrication subcontractor before it was shrink-

¹⁶⁵ Van den Broeke Witness Statement, ¶ 7.28.

¹⁶⁶ Lancaster Expert Report, Section 6.1.

¹⁶⁷ Griffin Witness Statement, ¶ 8.19.

¹⁶⁸ Exhibit C-196.

¹⁶⁹ Griffin Witness Statement, *passim*.

wrapped, crated and delivered to Claimants at the port.¹⁷⁰ Claimants relied upon those inspections and, at GE's instructions, did not uncrate and unwrap the modules until they were ready to be installed.¹⁷¹

139. The “*Release for Packing*” and final inspection reports for each module in Train 1 are at Exhibits C-101 and C-103. According to every one of those reports, which were provided to Claimants upon delivery of the final modules, all testing had been completed, walk downs of the equipment had been performed, and any punch list items for correction in the field had been identified.¹⁷² Claimants are unaware of having ever received or seen any such pre-shipment inspection punch list.¹⁷³ Each Release for Packing report includes a certification that “*this module is complete to a level satisfactory for preparation for shipment. All punch list items identified as field work has been annotated.*”¹⁷⁴ Every one of those certifications was false.
140. Again, Mr Griffin explains in his witness statement that Shell's experience with GE was exactly the same. Mr. Griffin remembers that, even when GE first asked Shell to inspect the first train for acceptance, Shell “*discovered that numerous skids were still incomplete, and rework was required before Shell could accept the train.*”¹⁷⁵
141. Unlike Shell, however, Claimants did not keep inspectors on-site, but trusted GE to deliver on its promise of high quality, “American-made” equipment.

¹⁷⁰ Exhibit C-754 (TM-0086, dated April 23, 2015); Pirijns Witness Statement, ¶ 12.5; Srinivasan Witness Statement, ¶ 2.2.

¹⁷¹ Pirijns Witness Statement, ¶ 12.9; Srinivasan Witness Statement, ¶ 2.2.

¹⁷² Exhibit C-101 (Release for Packing Forms for Train 1 Modules); Exhibit C-103 (Inspection and Test Plan Matrices for Train 1 Modules).

¹⁷³ Pirijns Witness Statement, ¶ 12.8.

¹⁷⁴ Exhibit C-101 (Release for Packing Forms for Train 1 Modules); Pirijns Witness Statement, ¶ 12.7.

¹⁷⁵ Griffin Witness Statement ¶ 8.13.

142. The facts regarding Train 2 are similar. According to GE's schedule, the pipe racks for Train 2 should have been ready to ship between March and May 2015, with the various equipment modules and skids for Train 2 shipping between March and early October 2015.
143. GE missed every one of these dates, too. The pipe racks for Train 2 were not delivered in Houston until the last day of May 2015.¹⁷⁶ The first modules for Train 2 were not delivered until October 2015 and the final modules were not delivered until April 2016, seven months after the September 2015 deadline for delivery of the entire train.¹⁷⁷ GE's assertion in the Statement of Counterclaim that "*Train 2 was fully delivered at the Port of Houston on February 3, 2016*" is not true.¹⁷⁸
144. Train 2 was also delivered incomplete. Again, thousands of parts — including hundreds of valves; hundreds of instruments; many hundreds of nuts and bolts, pipe supports and U-bolts; electrical cable; cable tray materials; heat tracing; insulation and more — were missing from this supposedly "fully-modularized" train.¹⁷⁹ The tallies of missing and changed parts are provided in Mr. Lancaster's expert report.¹⁸⁰ These missing and changing parts are still being delivered.
145. Like for Train 1, the inspections for Train 2 missed all of these missing parts. Whether willfully blind or grossly negligent, GE's inspectors falsely certified that GE's "fully-modularized" Trains were complete.
146. GE seeks to excuse its delay by contending that Claimants failed to respond timely to GE's requests for information, and cites to the Request for Information log ("**RFI log**") that was maintained during the first year of the project.¹⁸¹ According to GE, "*The RFI log ... contain*

¹⁷⁶ See, e.g., Pirijns Witness Statement, ¶ 11.6; see also Exhibits C-106 and C-107.

¹⁷⁷ See, e.g., Srinivasan Witness Statement, ¶ 3.7; see also Exhibits C-106 and C-107.

¹⁷⁸ Statement of Counterclaim, ¶ 74.

¹⁷⁹ See, e.g., Pirijns Witness Statement, Part 14.

¹⁸⁰ Lancaster Expert Report, Section 6.

¹⁸¹ See Statement of Counterclaim, ¶¶ 81-86 ("*IEC's failure to promptly respond ... prevented GEOG from progressing on its design in accordance with the delivery schedule under the Equipment Contract.*"). GE's reference to the Technical Query Requests log, as well, is entirely misplaced. That

*items that are critical for finalizing the design, which was the case with the Trains.”*¹⁸² In fact, the RFI log has a column specifying the design impact of each item. GE identified virtually every one of its requests as having “None” or “Low” design impact.¹⁸³ Moreover, IEC timely responded to virtually every request that GE made.

147. The one example GE cites relates to Item 58 of the RFI log, a December 29, 2014, inquiry that GE claims impacted the boil off gas (“BOG”) compressor and associated equipment.¹⁸⁴ Yet that request could not be the reason for GE’s engineering delay; by December 29, 2014, GE was already nearly a month behind schedule on its engineering milestone.¹⁸⁵ Nor were Claimants to blame for not providing an immediate answer; the answer ultimately depended on the power plant to be selected (because the compression required would depend on the power plant’s requirements), but GE was slow in providing the required information for Claimants to make that choice.¹⁸⁶ And, ultimately, GE cannot complain anyway because Claimants gave GE the schedule relief that GE requested in Change Order 019: 11 days (except for the BOG equipment, which was further extended for Train 1 by an additional 37 days).¹⁸⁷
148. GE’s argument that Claimants obstructed GE’s design progress is wrong.

3. Claimants’ Contractors Timely Installed the Modules Once They Arrived

149. Claimant waited for a critical mass of the Train 1 modules to arrive before mobilizing Iron Ox, its mechanical contractor, to begin assembling the pipe racks and installing the

document did not even exist until years after both Trains should have been delivered. *See* Kevin Slater Report, ¶ 3.5.2.1 (“*In the third quarter of 2017, GEOG set up a TQR ... The first TQR was submitted 20th October 2017*”).

¹⁸² Statement of Counterclaim, ¶ 82; *see* Exhibit R-48 (RFI log).

¹⁸³ *See* Exhibit R-48 (RFI log).

¹⁸⁴ Statement of Counterclaim, ¶ 83.

¹⁸⁵ Exhibit C-757 (TM-0016, providing that engineering for Train 1 to be completed by Dec. 2, 2014).

¹⁸⁶ Pirijns Witness Statement, ¶ 14.141.

¹⁸⁷ Exhibit C-752 (COR-019, dated March 31, 2015).

modules.¹⁸⁸ In December 2015, Iron Ox began erecting the pipe rack for Train 1, which it completed in January 2016.¹⁸⁹

150. Iron Ox then placed the Train 1 modules on their foundations. The final installation step was for Iron Ox to install the inter-connecting pipes and for Claimants' electrical contractor, Bizmart, to install the power cables.¹⁹⁰
151. Unfortunately, GE did not fabricate Train 1 with the same care as the Shell Reference Plant. As a result, the module skids were not all straight, and piping did not always line up. Iron Ox might connect pipes at the top right-hand corner of one module to the pipe rack, but find that pipes elsewhere on the module were now misaligned with the pipe rack. It was like assembling a puzzle with mis-cut (and missing) pieces.¹⁹¹



¹⁸⁸ Srinivasan Witness Statement, ¶¶ 3.8–3.9.

¹⁸⁹ Srinivasan Witness Statement, ¶¶ 3.10–3.11. The Statement of Counterclaim complains that Claimants did not start assembling the pipe rack sooner. Statement of Counterclaim, ¶¶ 88–89. The pipe rack, however, was built in time for the modules. Its assembly took only weeks, was completed long before the final modules arrived and did not hold up installation at all. Had GE delivered the modules on time, Claimants could have sensibly mobilized their mechanical contractor sooner, and the pipe rack would have been built sooner.

¹⁹⁰ Srinivasan Witness Statement, ¶ 3.9.

¹⁹¹ See Srinivasan Witness Statement, ¶¶ 3.16–3.20; Pirijns Witness Statement, ¶ 13.21.

152. Sometimes, when the misalignment was not too bad, Iron Ox could use routine construction alignment techniques, such as probing the openings with alignment pins or applying flanges.¹⁹² Other times, GE had to manufacture and send a spool of bent pipe to serve as a connector piece.¹⁹³ Sometimes even GE had to engage contractors to modify pipes on site so that they would fit. The modules just were not manufactured by GE to fit together as promised.
153. Despite these difficulties, Iron Ox completed as much of the installation of Trains 1 and 2 as was possible given the missing and mis-fitting parts both efficiently and quickly. By July 2016, Iron Ox had installed what it had for Train 1, despite the difficulties created by GE's fabrication mistakes.¹⁹⁴ Train 2 was not quite so fast because GE first withheld the ICPs, and then belatedly (and contrary to their assurances and obligations) disclosed that they had shipped them untested.¹⁹⁵ If it were not for this issue, Iron Ox could have installed what it had for Train 2 — despite all the difficulties created by GE's mis-fabrication of the modules — by August 2016.¹⁹⁶
154. Bizmart completed connecting the electrical cables towards the end of 2016. (Of course, that has had to be redone multiple times since then because of GE's design changes. Even today, Claimants are waiting on the delivery of replacement cables.¹⁹⁷)
155. Pursuant to the Services Agreement, GE had its own personnel on site to supervise the installation.¹⁹⁸ Their supervisors were there to identify work that needed to be done better

¹⁹² Srinivasan Witness Statement, ¶ 3.19.

¹⁹³ Srinivasan Witness Statement, ¶ 3.19.

¹⁹⁴ Srinivasan Witness Statement, ¶ 3.11.

¹⁹⁵ Srinivasan Witness Statement, ¶ 3.12; Pirijs Witness Statement, ¶¶ 14.167–14.170.

¹⁹⁶ Srinivasan Witness Statement, ¶ 3.11.

¹⁹⁷ Pirijs Witness Statement, ¶¶ 15.18–15.19.

¹⁹⁸ *See generally* Exhibit C-2.

or to be reworked. Sometimes they identified an issue. This should come as no surprise to anyone familiar with even a modest construction project.¹⁹⁹

156. What is notable, however, is that GE's contemporaneous punch list, and GE's Statement of Counterclaim, is able to identify so few construction issues that were Claimants' responsibility, particularly given the many installation difficulties created by GE's careless engineering and fabrication of the modules.²⁰⁰

G. The Litany of Defects Resulting from GE's Non-Performance of the Contracts

157. During the course of installing the two Trains, Claimants and GE began noticing problems. GE sent personnel to Rumuji to create punch lists of these problems. What began as a short list of less than 100 items while Iron Ox was installing the Trains²⁰¹ has blossomed into a list of more than five thousand items.²⁰²
158. This punch list was created and maintained by GE.²⁰³ GE decided whether it or Claimants were responsible for addressing each item.²⁰⁴ GE assigned responsibility to itself for the vast majority of the items.

¹⁹⁹ To take the example of pipes left open or on the ground, GE does not identify the circumstances of that incident. Nor does GE acknowledge that the same thing occurred during GE's fabrication of the modules. *See* Lancaster Expert Report, Section 4.5.1 (showing Google Earth images of pipes open and on the ground in the Turner yard in August 2015, when GE was fabricating the modules).

²⁰⁰ *See generally* Srinivasan Witness Statement (describing installation and punch list); *see also* Pirijns Witness Statement, ¶¶ 13.25, 13.29.

²⁰¹ *See* Exhibit R-61(b) (construction issues as of May 2016). As noted below, GE maintained the punch list and assigned many of its own tasks to Greenville. *See, e.g.,* Exhibit R-61(b) (assigning to Greenville the installation of gauges, orifices, valves, blinds and tags, all of which were part of GE's modularization obligation).

²⁰² Exhibits C-19 and C-20 (punch lists as of May 5, 2018, showing all open and closed items). *Compare* Srinivasan Witness Statement, ¶¶ 4.6, 5.5 (during installation of Train 3, which was the Reference Plant purchased by Claimants from Shell in 2016, installation was completed in three months, with a punch list of 164 items, which were closed in another month).

²⁰³ Pirijns Witness Statement, ¶ 13.24; Srinivasan Witness Statement, ¶ 5.1.

²⁰⁴ Srinivasan Witness Statement, ¶ 5.1.

159. In fact, GE was responsible for even more than it assigned to itself. Initially, Claimants did not complain about mis-allocations of responsibility to Claimants because an operating plant seemed near, and Claimants were willing to use their resources to close as many items as they could.²⁰⁵ As defects and deficiencies multiplied into 2017, however, Claimants resisted GE's efforts to shift responsibility and blame.²⁰⁶
160. In mid-2015, this project was frustrated by the delayed delivery of the Trains. Since then, it has been stymied by ongoing discoveries of missing equipment, defective engineering, defective fabrication of the modules and obstructive behavior by GE.
161. Mr. Pirijns' witness statement describes an extensive list of missing parts, defects and obstruction by GE. There is so much to relate that, even with over 100 pages, he acknowledges that his recitation is incomplete. Mr. Lumley and the experts at Exponent have assessed some of the most grave defects, and their reports provide independent confirmation of Mr. Pirijns statement. Exponent, which has expertise in post-failure analysis, also opines on the potential consequences to life and property if GE had been able to overcome the many defects and actually get Train 1 started up. Thankfully, it could not.
162. In its Statement of Counterclaim, GE suggests that between November 2016 and the present, virtually all the work being performed on site was Claimants' responsibility. It asserts: "*In November 2016, Marco Pagliaro became the Project Management Leader ... Mr. Pagliaro was informed that IEC was unlikely to complete construction of the Rumuji Plant before the second quarter of 2017.*"²⁰⁷ It asserts that "*a majority of the recent activities carried out by GEOG on its equipment on site are relatively normal issues that arise during commissioning.*"²⁰⁸

²⁰⁵ Pirijns Witness Statement, ¶ 13.27; Srinivasan Witness Statement, ¶ 5.1.

²⁰⁶ See Pirijns Witness Statement, ¶ 13.28.

²⁰⁷ Statement of Counterclaim, ¶ 106.

²⁰⁸ Statement of Counterclaim, ¶ 133.

163. In truth, the reason given to Claimants in November 2016 for the introduction of Mr. Pagliaro as the project manager was that his predecessor, who had run the project since its inception, was being removed. The entire management of Claimants' project was moved from Texas to Italy.²⁰⁹
164. During a high-level meeting at GE's offices in November 2016, Claimants presented an extensive overview of GE's defective performance. Rather than dispute it,

*The GE representatives were very sympathetic to our complaints, admitted that the supervision of the oil and gas business out of Texas had been unsatisfactory, and promised that with the change of the project management from Americans to Italians, IEC/Greenville would see a marked improvement in response time, supervision, overall performance. They promised mechanical completion by the next month, with LNG flowing in early 2017.*²¹⁰

165. GE did not, however, achieve mechanical completion the next month, or even as of today. Rather, as their own punch list evidences, there are thousands of defects for which GE is responsible. Some of those punch list items are exceedingly serious, such as (i) 37 pipelines (per train) that were designed to be over-stressed and unsafe, (ii) under-sized electrical cables that overheat and smolder, (iii) a start-up system for the critical MR compressors that is incapable of working and (iv) PRVs requiring retrofit to address back pressure relief.²¹¹ These, and others described below, are not "*relatively normal issues that arise during commissioning.*"²¹²
166. The following summary of the defects provides an introduction to the much more detailed descriptions provided in the witness statements and expert reports. It is meant as an introduction. It is not possible to be complete, particularly since additional defects are constantly being identified, and it has not yet been possible to start up or commission either

²⁰⁹ Pirijns Witness Statement, ¶ 13.34.

²¹⁰ Pirijns Witness Statement, ¶ 13.34.

²¹¹ Exhibit C-243 (Respondents' revisions to Claimants' draft Minutes of meeting on February 12-13, 2019).

²¹² Statement of Counterclaim, ¶ 133.

Train. Many of these defects present (or would have presented if not identified by Claimants) serious safety issues endangering people and risking property.

1. Defective Process Design

167. In Part II.B., above, the process for liquefying natural gas is described, including the different passes that are used to ensure that HHCs are sufficiently separated and removed from the gas vapor before it is chilled below the freezing temperature of the HHCs. GE's original design of the Trains — which is documented in the Equipment Contract — was fatally defective because it failed to provide for proper separation of the HHCs.²¹³ As a result of that defect, key components of the Trains would freeze in operation; the Trains would not work.²¹⁴
168. GE knew that its design was defective, possibly even before signing the Equipment Contract.²¹⁵ With that knowledge, GE re-engineered the liquefaction process in secret.²¹⁶ That re-engineering occurred either before or shortly after the Contracts were signed. As re-engineered, however, the Trains cannot meet the contractually specified minimum 765.1 TPD of LNG and 8.562 TPD of unstabilized (waste) condensate without additional equipment that GE has failed to include.²¹⁷ In other words, GE has known about this

²¹³ Lumley Expert Report, ¶ 2.1.

²¹⁴ Lumley Expert Report, ¶ 2.1.

²¹⁵ GE asserts in the Statement of Counterclaim that “*When entering into the Equipment Contract, IEC did not expect that the gas composition would contain heavy hydrocarbons and that a HHR system would be required, and therefore it was not part of GEOG’s scope of supply.... Due to the several changes in the gas composition and the discovery of the presence of heavy hydrocarbons in the feed gas, in early 2017, GEOG determined that a HHR system was required.*” Statement of Counterclaim, ¶¶ 141-142 (citations to Pagliaro witness statement omitted). In fact, Claimants provided GE with the feed gas composition in August 2014 that contained heavy hydrocarbons. See Pirijns Witness Statement, ¶¶ 16.15-16.17; Exhibit C-31. As explained in the remainder of this section, GE knew the HHCs were there and knew they would present a problem for Claimants from that time. But GE kept quiet. Then, when Claimants asked about a leaner (i.e., one with less HHCs), potential (i.e., not a change to the gas composition forming the contractual basis of design) gas composition, GE tried to use that as an excuse to inform Claimants that they needed an HHR system. GE’s story, told in GE’s Statement of Counterclaim, is — literally — fictional.

²¹⁶ Pirijns Witness Statement, ¶¶ 16.43-16.51.

²¹⁷ Lumley Expert Report, Parts 6.1-6.2; Pirijns Witness Statement, ¶¶ 16.52-16.54.

fundamental defect since the beginning, but concealed it from Claimants so that Claimants would not return to GE's Chinese competitors.

169. The inherent defect in GE's contract design was the -6.252 °C temperature at which GE attempted to separate the HHCs in the first pass of the cold box.²¹⁸ If the process would work, that temperature would allow GE to generate the contractually specified volumes of LNG and waste condensate. But at that temperature, the process would not work because the HHCs would not adequately liquefy and separate, causing too high a concentration of HHCs to be returned to the cold box for the second pass. During that second pass, the risk of freezing was high.²¹⁹
170. One month after the Equipment Contract was signed, on October 9, 2014, GE released its Transmittal 0010 ("TM-0010"), which contained a heat and material balance ("HMB") for the process design of the Trains.²²⁰ That HMB was a more complete version of the one included in the Equipment Contract as Annex B to Exhibit A.²²¹ In other words, on October 10th, GE continued to represent to Claimants that the first pass in the cold box would bring the natural gas vapor to a temperature of only -6.252 °C, achieving the guaranteed volumes of LNG.
171. Toward the end of 2014, Claimants retained Technip, an independent third-party consultant, to assist in various aspects of the project.²²² As part of its review, Technip studied GE's TM-0010 HMB, and raised concerns about the viability of GE's process design, particularly with respect to the -6.252 °C first pass outlet temperature.²²³ More

²¹⁸ Lumley Expert Report, ¶¶ 6.1.2-6.1.3. *See also* Exhibit C-1, Appendix A at Annex B.

²¹⁹ *See generally* ¶¶ 32-33, above. *See* Lumley Expert Report, ¶¶ 6.1.11-6.1.19.

²²⁰ Exhibit C-254 (TM-0010, dated October 9, 2014).

²²¹ *Compare* Exhibit C-1, Appendix A at Annex B *with* Exhibit C-254.

²²² Pirijns Witness Statement, ¶ 9.1.

²²³ Pirijns Witness Statement, ¶¶ 9.2-9.5.

specifically, Technip believed that this outlet temperature was unrealistically warm because of the concentration of HHCs in the feed gas.²²⁴

172. Technip was right, as corroborated by Mr. Lumley's expert report. The -6.252 °C outlet temperature from pass A of the cold box presents a high risk that HHCs will freeze on the second pass, with only a 2 °C margin of error between freezing and not freezing — an unacceptable margin that “*does not allow for minor variations in either gas composition or plant control perturbations.*”²²⁵ As Mr. Lumley explains, such a margin violates industry standards.²²⁶
173. Although Technip raised the concern with GE in early 2015, GE evaded the issue.²²⁷
174. But GE knew.
175. In fact, GE apparently knew when it signed the Equipment Contract, or shortly thereafter. During the September 23-23, 2014 Kickoff Meeting, GE told Claimants that the cold box manufacturer, Chart, had already “*validated the process condition specific for this IEC plant. Data under review by GE*”²²⁸ Chart, however, would have flagged the freezing issue.²²⁹ GE then ordered the cold box on or before October 13, 2014. As explained below, the cold box that Chart manufactured — the one that GE presumably ordered in October 2014 — does not cool the vapor to -6.252 °C at the exit of the first pass. Rather, we now know that the cold box in Claimants' Trains cools the gas vapor to temperatures in the range of -60°C to -70°C at the exit to the first pass, *i.e.*, much, much colder.

²²⁴ Pirijns Witness Statement, ¶ 9.6.

²²⁵ Lumley Expert Report, ¶ 16.1.13.

²²⁶ Lumley Expert Report, ¶ 16.1.13.

²²⁷ Pirijns Witness Statement, ¶ 9.7.

²²⁸ Exhibit C-46 (Minutes of meeting on September 22-23, 2014); Lumley Expert Report, ¶¶ 6.2.4-6.2.5.

²²⁹ Lumley Expert Report, ¶¶ 6.2.6-6.2.7.

176. In September 2015, GE released a new HMB under Transmittal 0128 (“TM-0128”).²³⁰ GE issued that HMB because Claimants were still investigating possible feed gas suppliers, and had asked GE six months earlier, in March 2015, to analyze how the Trains would operate with feed gas from the Ogbele field.²³¹ The HMB attached to TM-0128 showed a substantially greater production of unstabilized condensate: 2471.22 kg/hr (about 51.76 TPD) instead of 432.81 kg/hr (about 8.562 TPD).²³² Those results were not favorable, and Claimants’ attention moved on from this alternative gas feed.²³³
177. The significance behind the difference in TM-0010 and TM-0128 was first recognized by one of Claimants’ advisers in November 2016.²³⁴ The Ogbele field’s gas was leaner (*i.e.*, had less HHCs) than the feed gas specified in the Equipment Contract.²³⁵ It did not make sense to him that a feed gas with fewer HHCs would generate 600 percent more unstabilized condensate. Upon inspecting the two HMBs, it became clear that the reason for the changed condensate volumes was that GE had changed the design of the cold box without Claimants’ knowledge or permission.²³⁶ The outlet temperature of the first pass was no longer -6.252 °C, as provided in the Equipment Contract. It had been lowered to -62.35 °C.²³⁷
178. The effect of this design change on the leaner Ogbele feed gas was to generate 600 percent more unstabilized condensate and correspondingly less LNG; the effect of the design

²³⁰ Exhibit C-259 (TM-0028, dated September 28, 2015).

²³¹ Pirijns Witness Statement, ¶¶ 16.32-16.39.

²³² Exhibit C-259; Lumley Expert Report, ¶¶ 5.1.44-5.1.45; Pirijns Witness Statement, ¶ 16.48. The HMB attached to TM-0128 surprisingly did not show a decrease in LNG production as would be expected from increased condensate production because GE actually increased the quantity of feed gas supply in order to generate roughly the same LNG production as reflected in the contract HMB. Pirijns Witness Statement, ¶¶ 16.49-50.

²³³ Pirijns Witness Statement, ¶ 16.38.

²³⁴ Pirijns Witness Statement, ¶ 16.43.

²³⁵ Pirijns Witness Statement, ¶ 16.43.

²³⁶ Lumley Expert Report, ¶ 6.2.11.

²³⁷ Compare Exhibit C-254 with Exhibit C-259; Lumley Expert Report, ¶ 5.1.43.

change on the contractually specified feed gas is even greater.²³⁸ As Mr. Lumley explains, with the contract feed gas and a first pass outlet temperature of -62.35 °C, each Train would produce 680.6 TPD of LNG and 85.3 TPD of unstabilized condensate.²³⁹ This is substantially below the contractually guaranteed 765.1 TPD of LNG and substantially above the 8.562 TPD of condensate.

179. When Claimants raised the inconsistencies between the TM-0010 and TM-0128 HMBs with GE, GE revealed that Claimants needed to purchase additional, long-lead equipment — expensive fractionation columns — to separate the various hydrocarbons by type.²⁴⁰ GE proposed to sell Claimants a fractionation column that (i) would allow the methane and ethane to be separated from the condensate and returned to the cold box, (ii) would allow the propane and butane to be separated and converted to LPG and (iii) would leave a volume of condensate that is more consistent with the contractual specifications.²⁴¹ Instead, Claimants purchased the fractionation column from a third party, CryoSys, which delivered it in about one-half the time GE required and at a better price.²⁴²
180. Thus, while GE guaranteed that its liquefaction trains — as designed and sold — would produce 765.1 TPD of LNG with the contractual feed gas, GE knew that those trains could not achieve that result without additional, expensive fractionation columns. The only reason GE would have changed the outlet temperature of the first pass in the late summer or fall of 2014 — as it must have done — is if it already knew its design was defective and would freeze the HHCs in the cold box. As unilaterally changed, however, GE's design remained defective, violating the Equipment Contract's production guarantees.
181. Depending upon when GE knew its contractual design would not work, its misrepresentations about the performance capabilities of the Trains was (i) a fraudulent

²³⁸ Lumley Expert Report, ¶ 6.2.12; Pirijns Witness Statement, ¶ 16.52.

²³⁹ Lumley Expert Report, ¶ 6.2.13.

²⁴⁰ Pirijns Witness Statement, ¶ 16.55.

²⁴¹ Exhibit C-273; Pirijns Witness Statement, ¶¶ 16.72-16.75; Lumley Expert Report, ¶¶ 6.2.25-6.2.27.

²⁴² Exhibit C-275; Helsen Witness Statement, ¶ 53(a).

inducement to Claimants to secure the Contracts and/or (ii) a fraudulent deception to prevent Claimants from terminating the Contracts for material anticipatory breach and returning to China. GE's deception was also willful misconduct. The breach, itself, has required Claimants to purchase and install fractionation columns at great added expense.

2. Unsafe Flare System

182. Under the Equipment Contract, GE was required to design the pressure-relieving flare system in accordance with, *inter alia*, API 520 and 521.²⁴³
183. API 520 requires, *inter alia*, that (i) “[t]he PRV discharge line and flare header shall be designed so that the built-up backpressure does not exceed the allowable limits;” and (ii) “Discharge piping from pressure-relief devices must be drained properly to prevent the accumulation of liquids on the downstream side of the pressure-relief device. The outlet piping to closed systems should be self-draining to a liquid disposal point.”²⁴⁴
184. API 521 advises that “[d]isposal system piping should be self-draining,” and “[p]ocketing of discharge lines should be avoided.” It further recommends “a self-draining slope of 21 mm vertical change for every 10 m of horizontal run (equivalent to a slope of 1/476 or 0.12 degrees).”²⁴⁵
185. GE engineering, however, was defective and design of the piping to the flares creates pockets without slope or sufficient slope.²⁴⁶ As a result, a significant risk exists that liquid traveling to the flare will collect in the pipe and hammering of liquid (*i.e.*, a rapid change in the momentum of the liquid due to a pressure wave) may occur.²⁴⁷

²⁴³ Exhibit C-1, Section 3.2.12 of Appendix A.

²⁴⁴ Exponent Expert Report at pp. 11-12.

²⁴⁵ Exponent Expert Report at p. 12.

²⁴⁶ See Exponent Expert Report, Part 5.1.1; Pirijns Witness Statement, ¶ 15.24; Exhibit C-186 (Letter from IEC to GE, dated February 28, 2019); Exhibit C-243 (Respondents' revisions to Claimants' draft Minutes of Meeting on February 12-13, 2019).

²⁴⁷ Exponent Expert Report at p. 13; Pirijns Witness Statement, ¶ 15.24.

186. This defect presents a serious safety issue. As the Exponent Expert Report explains, “*The purpose of these industry consensus specifications is to protect against dangerous phenomena such as ‘burning rain,’ liquid hammering, and back pressure build up in flare systems. ... Burning rain can injure workers, damage equipment, and ignite fires Liquid hammer [can] rupture the piping and/or flare tip.... Increased back pressure can cause PRVs to malfunction [which may cause] upstream equipment [to] be damaged or even rupture.*”²⁴⁸
187. Claimants first identified this concern in mid-2018, upon hiring a specialist to assess GE’s assertion of Mechanical Completion on Train 1.²⁴⁹ For more than half a year, GE denied that there was any problem, and attempted (unsuccessfully) to start up Train 1 with the defective flare line.²⁵⁰ Claimants insisted that GE visit the site to inspect this defect. After much resistance, senior executives and engineers from GE came to Rumuji on February 12-13, 2019. Following its inspection of the flare line, GE acknowledged the problems.²⁵¹
188. GE has not yet identified a design solution.²⁵² Although GE appears now to admit that it created this defect, it was still denying it when it presented its Statement of Counterclaim. In that document, GE asserted that “*GEOG found that the poor performance of IEC’s mechanical contractor in building the flare line resulted in non-compliance with GEOG’s design. As a result, the pipe contained an inverted slope creating a low pocket, in which liquids that are supposed to flow freely in the pipe can accumulate ...This can lead to ‘burning rain’, excess back pressure, and possible large reaction forces in the header.*”²⁵³

²⁴⁸ Exponent Expert Report at pp. 13-14.

²⁴⁹ Pirijns Witness Statement, ¶ 15.25.

²⁵⁰ Pirijns Witness Statement, ¶ 15.25.

²⁵¹ Pirijns Witness Statement, ¶ 15.25; Exhibit C-186 (Letter from IEC to GE, dated February 28, 2019); Exhibit C-243 (Respondents’ revisions to Claimants’ draft Minutes of Meeting on February 12-13, 2019).

²⁵² Pirijns Witness Statement, ¶ 15.25.

²⁵³ Statement of Counterclaim, ¶ 155.

GE's Counterclaim is right about the danger of the situation, but reflexively (and wrongly) placed responsibility on Claimants instead of itself.

189. Until GE makes the required modifications for its defect, the Trains cannot be operational.
190. GE's failure to properly engineer the flare line, followed by its refusal to inspect the line and instead proceed (unsuccessfully) to try to start up Train 1, created a serious safety risk. GE's original design was grossly negligent and its subsequent behavior has been grossly negligent or willful misconduct.

3. Dangerously Undersized Electrical Cables

191. Claimants have been alerting GE to the risk that it had under-engineered the electrical cables throughout the Trains. GE routinely rebuffed these concerns.²⁵⁴
192. In August 2018, during GE's failed efforts to start up the motor to the critical mixed refrigerant compressors ("MRCs"), the concern was realized when the cables overheated and a fuse holder in the cable box melted.²⁵⁵



²⁵⁴ Pirijns Witness Statement, ¶ 15.16.

²⁵⁵ Exponent Expert Report at p. 25.

193. The use of undersized cables is a major safety hazard. As the Exponent Report explains, “*Undersized cables can pose a serious safety risk, as they can overheat, melt, and cause fire.*”²⁵⁶ In the context of a natural gas and LNG facility, electrical and fire hazards pose explosion risks and are especially unacceptable.
194. During the February 12-13, 2019, meeting in Rumuji, GE admitted that it had selected and supplied cables that were not suitable for the MRC motors, as well as certain other equipment.²⁵⁷ As Mr. Pirijns explains, GE admitted during the meeting that it “*had made serious mistakes in cable selections, and that main cables would have to be replaced.*”²⁵⁸ The GE engineers at that meeting began searching for potential electrical cable suppliers during the meeting, and asked Mr. Pirijns if he had any recommendations for sourcing appropriately sized cables.²⁵⁹
195. GE has not delivered the necessary cables.²⁶⁰ Once delivered, the old cables will need to be removed and the replacement cables installed. These cables are huge, some weighing as much as 11,000 kg/km. Until GE makes the required modifications, the Trains cannot be operational.
196. GE’s failure to engineer properly sized cables and its repeated refusals to address Claimants’ now validated concerns, while attempting instead to start up (unsuccessfully) Train 1, created a serious safety risk. GE’s original engineering was grossly negligent and its subsequent behavior has been grossly negligent or willful misconduct.

4. Inadequately Supported Pipes

197. Throughout this project, Claimants have alerted GE to piping systems that appeared to be designed with inadequate physical supports. Inadequate support creates stress on piping

²⁵⁶ Exponent Expert Report at p. 22.

²⁵⁷ Exhibit C-186 (Letter from IEC to GE, dated February 28, 2019); Exhibit C-243 (Respondents’ revisions to Claimants’ draft Minutes of meeting on February 12-13, 2019).

²⁵⁸ Pirijns Witness Statement, ¶ 15.18.

²⁵⁹ Pirijns Witness Statement, ¶ 15.18.

²⁶⁰ Pirijns Witness Statement, ¶ 15.19.

systems that can cause their collapse. In an LNG process plant where there are substantial temperature changes and rotating parts, those risks are magnified.

198. Excessive stress on piping in a process plant can be catastrophic. As the Exponent Report explains, *“Failure to appropriately support heavy runs of piping that contain flanged connections will impose undue bending moments on the connections and produce nonuniform gasket loading, which can result in gasket failure and leakage of process fluids.... Leakage of [the process fluids in an LNG plant] could result in an explosion and/or fire with potentially catastrophic consequences to workers and equipment.”*²⁶¹
199. When GE claimed Mechanical Completion on Train 1 in mid-2018, it meant that operations with hydrocarbons would soon begin. Uncertain about the safety of the piping systems, Claimants requested copies of the stress analyses that GE must have performed when it engineered the Trains.²⁶² GE did not initially respond.
200. When GE delayed, Claimants retained Softec, a specialist firm that has often worked for GE, to investigate the critical piping systems.²⁶³ Softec’s preliminary report identified numerous areas of overstressed piping and under-supported structural members on critical lines.²⁶⁴ Armed with this alarming information, Claimants continued to press GE for its stress test results.
201. On December 21, 2018 — over six months after GE sought to declare Train 1 mechanically complete — GE released to Claimants a summary evaluation that it had just completed. That summary admitted that over thirty *“modifications on the pipe supports have to be performed and implemented before the full operation of this plant,”* including several instances in which *“major steel would need to be added to add a new support.”*²⁶⁵

²⁶¹ Exponent Expert Report at p. 19.

²⁶² Pirijns Witness Statement, ¶ 15.14.

²⁶³ Pirijns Witness Statement, ¶ 15.12.

²⁶⁴ Pirijns Witness Statement, ¶ 15.12.

²⁶⁵ Exhibit C-242 (TM-0297, dated December 21, 2018); Pirijns Witness Statement, ¶ 15.12.

202. GE still did not provide any stress analysis from when it engineered the Trains.
203. During the Rumuji meetings in February 2019, GE confirmed that 37 piping systems on each Train were improperly stressed and required remediation by GE before the Trains could be safely operated. GE would not concede that it had never performed the required stress analysis on the piping systems, but admitted that they were insufficient.²⁶⁶
204. GE has not yet remediated the 37 piping systems. Until GE makes the required modifications, the Trains cannot be operational.
205. GE's failure to perform (or to perform properly) the necessary stress calculations during engineering, followed by its efforts (unsuccessfully) to start up Train 1 without performing the necessary stress analyses, created a serious safety risk.²⁶⁷ It is believed that GE's original engineering was grossly negligent; GE's subsequent behavior has been grossly negligent or willful misconduct.

5. Ineffective Starting Mechanism for Mixed Refrigerant Compressors

206. From the beginning of this project, Claimants identified the start-up of the MRCs as a critical engineering issue to be solved by GE. GE identified three possible start-up mechanisms to integrate the power plant with the Trains — an autotransformer, a soft starter, and a variable frequency drive ("VFD"). Claimants cautioned GE that a VFD was required, and that the soft starter solution would not work. Claimants and GE agreed that while an autotransformer would be the cheapest solution, it would not work at the plant.²⁶⁸
207. On July 8, 2015, following a six-month dispute between the parties as to GE's responsibility for providing the start-up mechanism, GE agreed to provide the start-up mechanism for the MRCs as part of a broader settlement of scope issues, including

²⁶⁶ Pirijns Witness Statement, ¶ 15.13; Exhibit C-186 (Letter from IEC to GE, dated February 28, 2019); Exhibit C-243 (Respondents' revisions to Claimants' draft Minutes of meeting on February 12-13, 2019).

²⁶⁷ Exponent Expert Report, Part 5.1.2.

²⁶⁸ Pirijns Witness Statement, ¶ 15.21.

Claimants' agreement to cancel their power plant contract with Wartsila and purchase GE's Jenbacher engines instead. This was confirmed in Change Order Request 27, which was agreed by both parties.²⁶⁹ GE chose to implement its start-up obligation by using the cheaper of the two potentially viable solutions, the soft starter solution.²⁷⁰

208. Despite this resolution, Claimants continued to question whether the soft starter would be capable of starting the MRCs.²⁷¹ Since mid-2018, GE has attempted to start the MRCs with the soft starter. They have repeatedly failed.²⁷²
209. At the February 2019 Rumuji meeting, GE admitted that its soft starter solution would not work. GE conceded that — as Claimants had been saying since 2014 — a VFD is required.²⁷³
210. VFDs are long lead items, and typically require about 10 months to acquire.²⁷⁴ For example, as Mr. Griffin notes, the VFDs for one of Shell's trains had a lead time of over 20 months.²⁷⁵ The Trains are not operational until GE procures and installs the required VFDs.
211. GE's selection of a soft starter solution, despite Claimants' warnings that it would not work, was gross negligence or willful misconduct. GE's continuing failure to deliver a start-up solution, or even to place the long-lead order for the VFDs, is further gross

²⁶⁹ Exhibit C-15 (COR-27 July 8, 2015 "Settlement Agreement").

²⁷⁰ Exhibit C-15 (COR-27 July 8, 2015 "Settlement Agreement").

²⁷¹ Pirijns Witness Statement, ¶ 15.21.

²⁷² Pirijns Witness Statement, ¶ 15.22.

²⁷³ Pirijns Witness Statement, ¶ 15.22; Exhibit C-186 (Letter from IEC to GE, dated February 28, 2019); Exhibit C-243 (Respondents' revisions to Claimants' draft Minutes of meeting on February 12-13, 2019); *see also* Exponent Expert Report, Part 5.1.4 (confirming that soft starters cannot start up the MRC motors in Claimants' plant and that VFDs would be more suitable).

²⁷⁴ Pirijns Witness Statement, ¶ 15.22.

²⁷⁵ Griffin Witness Statement, ¶ 4.5.

negligence or willful misconduct that is causing Claimants to suffer continuing delays and injury.

6. Defectively Engineered MR Coolers Module

212. Module M-0503, which contains coolers for the MR refrigerant, includes very heavy sections of piping that carry highly explosive mixed refrigerant.²⁷⁶ The structural design for M-0503 in the Shell Reference Plant includes strong vertical pillars to support that heavy piping. Trains 1 and 2, which were supposed to be based on the Reference Plant, were delivered without those pillars, leaving the piping to be supported by the nozzles/flanges of the coolers.²⁷⁷
213. In response to Claimants' concern that the system appeared precarious, GE claimed that it had reengineered the coolers' nozzles and flanges to support the weight of the pipe.²⁷⁸ This made little sense to Claimants given the amount of weight and torque that the piping would apply to the nozzles and flanges without vertical supports.²⁷⁹ Therefore, Claimants asked GE to install the vertical pillars contained in the Reference Plant.²⁸⁰ GE refused. GE also threatened to nullify Claimants' warranty if Claimants were to add those supports on their own: *"There is no reason to add any supports for Train 1&2. Modifying GE structures and modules will void the warranty."*²⁸¹
214. Due to the apparent riskiness of large piping — particularly large piping carrying mixed refrigerant — being precariously positioned, Claimants continued to press the point, but GE remained adamant.²⁸² Nearly a year later, GE reversed position and confirmed that the

²⁷⁶ Pirijns Witness Statement, ¶ 14.70; Exponent Expert Report at p 19.

²⁷⁷ Pirijns Witness Statement, ¶¶ 14.71-14.72; Exponent Expert Report at pp. 14-16.

²⁷⁸ Pirijns Witness Statement, ¶ 14.73.

²⁷⁹ Pirijns Witness Statement, ¶ 14.74.

²⁸⁰ Pirijns Witness Statement, ¶ 14.75.

²⁸¹ Pirijns Witness Statement, ¶ 14.75; Exhibit C-182.

²⁸² Pirijns Witness Statement, ¶ 14.76.

additional supports were necessary.²⁸³ GE provided the design for support, and Claimants installed them immediately, intending to seek reimbursement of the costs from GE.²⁸⁴

215. GE's defective engineering of Module M-0503 (apparently to save money on the cost of the supports), followed by its refusal to acknowledge this serious safety defect for nearly a year, was grossly negligent and/or willful misconduct.

7. Delivery of Untested Interconnecting Pipes

216. Because the Trains are made up of interconnecting modules, it required interconnecting pipes ("ICPs") to connect them to one another. GE's assertion that the ICPs were not deliverable under the Equipment Contract, and that Claimants are obliged to pay extra for them, is addressed in Claimants' response to GE's counterclaims.²⁸⁵ Here, we address GE's late and defective delivery of the ICPs.
217. Some ICPs for Train 1 were delivered with the pipe rack modules in March 2015.²⁸⁶ The balance of the ICPs for both Trains arrived by the end of March 2016.²⁸⁷ Under the Equipment Contract, all modules were required to be "*tested in the shop*" before delivery "*to reduce the Site installation work.*"²⁸⁸ With respect to the ICPs, specifically, GE's Mr. Cohen confirmed that "*pressure testing*" was "*required for the ICP*" before shipment; indeed, he justified their high cost on this fact.²⁸⁹
218. Based on these assurances, Claimants installed the ICPs on Train 1 and were installing the ICPs on Train 2 with the understanding that they had already been tested and were safe to

²⁸³ Pirijns Witness Statement, ¶¶ 14.77-14.78.

²⁸⁴ Pirijns Witness Statement, ¶ 14.79.

²⁸⁵ See *infra* at Section V.B.2., below; see also Pirijns Witness Statement, ¶¶ 18.5-18.29.

²⁸⁶ Pirijns Witness Statement, ¶ 10.14.

²⁸⁷ Pirijns Witness Statement, ¶¶ 13.6-13.7.

²⁸⁸ Exhibit C-1, Appendix A, Clause 3.1.1. at p. 7 of 31.

²⁸⁹ Exhibit C-48 ; Pirijns Witness Statement, ¶ 14.166.

use.²⁹⁰ After the ICPs for Train 1 had been fully installed and the ICPs for Train 2 had been partially installed, a workman noticed that one spool of ICP had a sticker stating that it had not been tested.²⁹¹ When GE was confronted, it admitted that it had not tested the ICPs before delivering them.²⁹²

219. As a result, Claimants had to uninstall all of the ICPs, hydrotest them and then reinstall them. Not all of the ICPs passed the hydrotests.²⁹³ Had Claimants not discovered GE's failure, those pipe spools would have been placed in service, creating serious risk to Claimants' personnel and property.
220. GE's failure to hydrotest the ICPs before delivering them — despite express assurances that it had and certifications confirming the same — was grossly negligent or willful misconduct. This is just one more example of GE's repeated willingness to "cut corners" and conceal that they are doing so, placing Claimants' personnel in jeopardy.

8. Delivery of Substantially Misaligned Modules

221. Each Train consisted of approximately 39 different modules, each of which had multiple pipe spools and other equipment that needed to be aligned and connected with neighboring modules and/or the pipe rack.
222. Unlike the modules for the Shell Reference Plant, which were quickly aligned and connected, the modules for Trains 1 and 2 were not straight and the interconnecting parts could not easily be aligned.²⁹⁴ Claimants frequently aligned one pipe spool to find others

²⁹⁰ Pirijns Witness Statement, ¶ 14.166.

²⁹¹ Pirijns Witness Statement, ¶ 14.167.

²⁹² Pirijns Witness Statement, ¶¶ 14.168-14.169; Exhibit C-229 ("*No ICP spools were hydro tested by GE or Turner*").

²⁹³ Pirijns Witness Statement, ¶ 14.170.

²⁹⁴ Srinivasan Witness Statement, ¶¶ 3.16-3.20; Pirijns Witness Statement, ¶ 13.21.

driven out of alignment. The image in GE's marketing materials — which was virtual reality in the Reference Plant — bore no resemblance to Trains 1 and 2.²⁹⁵

223. As Mr. Srinivasan explains: *“the modules had not been properly fabricated and, as a result, the end of a pipe on one module would not always line up with the pipe on the next module to which it had to be connected. Sometimes, we could line up the pipes on one corner of the module, only to find that the pipes in another corner would then become misaligned.”*²⁹⁶ GE's on-site supervisors were unhelpful: *“When this happened, Mr. Michael Okweye, and Mr. Joshua Adesina looked at the problem helplessly.”*²⁹⁷
224. GE's delivered modules were grossly misaligned and, therefore, defective. GE's lack of precision and care in fabricating the modules violated its obligation to deliver fully-modularized trains. This is just one more example of GE's repeated failure to deliver a defect-free product.

9. Defectively Fabricated Static Mixer (Backwards Installation)

225. Module M-0502 contains a static mixer, which is a device that creates turbulence in the gas stream to mix the MR gas, a highly flammable mix of gases. The device is contained inside a short pipe spool, which is then installed in the piping of the module. To ensure that the static mixer is positioned in the direction of the flow of gas, the manufacturer of the static mixer places a permanent arrow on the exterior of the pipe spool to show the correct direction of installation.²⁹⁸
226. GE's fabrication subcontractor installed the static mixer on Train 1 backwards.²⁹⁹ GE's quality control failed to observe the incorrectly pointing arrow, and the module purportedly

²⁹⁵ Exhibit C-753 at Slide19.

²⁹⁶ Srinivasan Witness Statement, ¶ 3.16; *see also* Srinivasan Witness Statement, ¶ 3.17 (photos of examples of misaligned pipes).

²⁹⁷ Srinivasan Witness Statement, ¶ 3.18.

²⁹⁸ Pirijns Witness Statement, ¶ 14.96.

²⁹⁹ Pirijns Witness Statement, ¶ 14.97.

- passed all testing and inspections prior to shipment.³⁰⁰ Because the static mixer was covered in insulation when received by Claimants, the arrow was no longer visible and it was a failure waiting to happen.³⁰¹
227. On October 4, 2017, Claimants blew pressurized air through the piping line that contained the static mixer.³⁰² The static mixer was dislodged from its spool and shot through the piping until it shattered in a nearby vessel.³⁰³ (No one knows whether sparks, which would have been a disaster if MR gas had been flowing, resulted.) When Claimants investigated by removing the insulation, they discovered that the static mixer had been installed backwards.³⁰⁴
228. GE initially blamed Claimants for performing the blowing procedure incorrectly, even though (i) the arrow on the exterior of the spool was clearly pointing in the wrong direction and (ii) the air pressure during the blowing procedure was just 8.5 barg, far below the operating pressure of 28 barg.³⁰⁵ GE then blamed the manufacturer for placing the arrow on the spool in the wrong direction, which was also false.³⁰⁶ Eventually, GE owned up to the improper installation, but only after Claimants obtained information from the manufacturer demonstrating that the static mixer was incorrectly installed.³⁰⁷
229. Despite admitting its error, GE delayed ordering a replacement static mixer. Ultimately, Claimants secured their own replacement, for which GE is obliged to reimburse Claimants.³⁰⁸

³⁰⁰ Pirijns Witness Statement, ¶¶ 14.98-14.99.

³⁰¹ Pirijns Witness Statement, ¶ 14.97.

³⁰² Pirijns Witness Statement, ¶ 14.100.

³⁰³ Pirijns Witness Statement, ¶ 14.101.

³⁰⁴ Pirijns Witness Statement, ¶ 14.100.

³⁰⁵ Pirijns Witness Statement, ¶¶ 14.102, 14.103.

³⁰⁶ Pirijns Witness Statement, ¶ 14.104.

³⁰⁷ Pirijns Witness Statement, ¶¶ 14.104, 14.106.

³⁰⁸ Pirijns Witness Statement, ¶ 14.107.

230. GE's improper installation of the static mixer, followed by GE's falsely certifying that it had inspected and tested Module M-0502, was grossly negligent and/or willful misconduct. GE's denials of responsibility and failure to timely replace the static mixer was equally wrongful.

10. Improperly Engineered and Installed Expansion Bellows

231. Modules M-0503 and M-0504 contain the expensive and critically important MR compressors ("MRCs"). Bellows that fail can cause "*significant complications, including ruptures and structural damage.*"³⁰⁹ One such incident led to a plant explosion in the United Kingdom, with multiple resulting fatalities.³¹⁰
232. Because the piping that leads into the MRCs would undergo changes in temperature, changes in pressure and vibration, GE engineered these modules with bellows that would absorb the stresses and protect the MRCs.³¹¹ These bellows have suffered from multiple defects.
233. First, GE installed the bellows backwards on both Train 1 and Train 2. Like the static mixer, after GE's subcontractor installed the bellows backwards, GE certified that the module passed all inspections and testing. Once Claimants discovered this fabrication defect, extensive communications with GE followed before Claimants were permitted to remedy it.³¹²
234. Then, when Claimants blew pressurized air through line MR-140 on Train 1, the associated bellow over-expanded and deformed.³¹³ This occurred at a pressure of no more than 8.5

³⁰⁹ Exponent Expert Report, Part 3.2.2.

³¹⁰ Exponent Expert Report, Part 5.2.2.

³¹¹ Pirijns Witness Statement, ¶ 14.45.

³¹² Pirijns Witness Statement, ¶¶ 14.47-14.48, 14.53-14.55.

³¹³ Pirijns Witness Statement, ¶¶ 14.49-14.52.

- barg, even though the operational pressure in this line is 28 barg.³¹⁴ In other words, GE's engineering and/or procurement of this bellow was defective.
235. After various excuses that lasted for several months, GE admitted in December 2017 that all of the bellows on the MR compressor modules had to be replaced.³¹⁵ The replacement bellows did not arrive until mid-March 2018 — over five months after the failure — and were not installed by GE until mid-April. The replacement bellows, which are far larger and more sophisticated than the original ones, required major piping reworks and supports.³¹⁶ This defect confirms the inadequacy of GE's original engineering and procurement.
236. GE's engineering, procurement and installation of the wrong bellows in the wrong direction could have presented serious safety and reliability issues. The bellows connect piping carrying mixed refrigerant to the MRCs. Failure of the bellows when operating at 28 barg could have damaged the MRC and possibly led to a release of mixed refrigerant.³¹⁷
237. GE's improper engineering and procurement of inadequate bellows was grossly negligent. Its installation of the bellows, followed by its false certification that it had inspected and tested the modules in which they were wrongly installed, was grossly negligent and/or willful misconduct. GE's denials of responsibility and delay in repairing its defective fabrication was equally wrongful.

11. Defective Inlet Guide Vanes on the MRCs

238. Each MRC contains inlet guide vanes ("IGV") that direct MR gas into the compressor at the required volume. The MRCs were manufactured by Cameron for GE.³¹⁸

³¹⁴ Pirijns Witness Statement, ¶ 14.50.

³¹⁵ Pirijns Witness Statement, ¶¶ 14.56-14.57.

³¹⁶ Pirijns Witness Statement, ¶ 14.58. Notably, on the Shell Reference Plant, GE used reliable expansion loops instead of bellows.

³¹⁷ Exponent Expert Report, Part 5.2.2.

³¹⁸ Pirijns Witness Statement, ¶ 14.162.

239. In October 2017, a Cameron representative who was on site in Rumuji noticed that the IGVs on Claimants' MRCs had been recalled by Cameron several years earlier because the blades could fail and enter the compressor, damaging it.³¹⁹ Claimants asked GE about this new information, only to learn that GE was already aware of the problem. Once alerted by Claimants, GE agreed to arrange for replacement blades, but the correct IGVs did not arrive until several months later.³²⁰
240. GE's failure to notify Claimants of this significant defect in the MRCs, despite a recall by the compressor manufacturer, was not only a failure of GE's quality management system, but also grossly negligent or willful misconduct.

12. Defective and Incomplete Automation System

241. Under the Equipment Contract, GE was obligated to supply a "*Plant Control System*" using "*state-of-the-art control system hardware*" that is "*designed to be an all-inclusive and scalable system that combines the attributes of programmable logic controllers and distributed control systems.*"³²¹ The control system was to be "*a powerful process control system with a small, modular footprint that uses off-the-shelf, open technologies coupled with digital bi-directional communications with intelligent and traditional field devices.*"³²²
242. GE has been unable to complete the control system for Trains 1 and 2, and there are deficiencies in the hardware and software to be supplied.³²³ Needless to say, GE has provided absolutely no training whatsoever for the operators on how to use the control system as it agreed to do under the Services Contract, and its independent commitment to

³¹⁹ Pirijns Witness Statement, ¶ 14.162

³²⁰ Pirijns Witness Statement, ¶ 14.164.

³²¹ Exhibit C-1, Appendix A, Clause 3.6.

³²² Exhibit C-1, Appendix A, Clause 3.6.

³²³ Pirijns Witness Statement, ¶ 14.183.

integrate the BOP under the into the Trains is similarly unfinished despite having been underway for years.³²⁴

243. GE's continuing inability to deliver an automation system that should have been provided nearly four years ago evidences a level of incompetence, or unwillingness to hire appropriately trained personnel, rising to the level of gross negligence or willful misconduct.

13. Unaligned MRCs and Missing Couplings

244. The MRCs and their modules suffered several additional defects, as well.
245. First, GE provided Claimants with the wrong anchor bolt locations for the MRC modules for Train 2. As a result, when Claimants tried to install those modules on their foundations, the anchor bolts did not align with the modules' anchoring feet. This caused delay as GE had to relocate the anchoring feet.³²⁵
246. Second, GE did not pre-align the shafts of the MRC and the MRC motor in a factory setting. Typically, a compressor and its motor are aligned in the factory under controlled conditions so that mounting holes can be drilled in the foundation of the compressor motor concurrently to ensure proper alignment when later installed in the field.³²⁶ Apparently to save money, GE chose to leave the entire alignment for the field. The consequences of this field alignment remain to be seen because, as discussed above, GE's soft starter "solution" has been unable to start up the MRC motors.
247. Third, during preparation for the field alignment, Claimants discovered that the couplings used to join the compressor shafts to the motor shafts were missing. While GE blamed Claimants for losing the couplings, GE could not confirm that the coupling had actually been shipped. Following a prolonged investigation, GE conceded that the missing

³²⁴ Pirijns Witness Statement, ¶¶ 14.184, 14.185; Exhibits C-6 and C-7.

³²⁵ Pirijns Witness Statement, ¶¶ 14.116-14.121.

³²⁶ Pirijns Witness Statement, ¶¶ 14.122-14.125.

couplings had not been shipped. Rather, the GE entity that manufactured the motors had determined the couplings provided by GE were defective and never shipped them.³²⁷

248. GE's defective performance are further contractual breaches. As part of an extensive pattern, they are also further evidence of GE's grossly negligent and willful misconduct.

14. Hundreds of Missing, Improperly Engineered or Fabricated, and Defective Valves

249. Every module contains valves that are necessary for safety and operational reasons. As the Exponent Report observes, *"Improperly installed valves can lead to pressure surges, wrongly flowing fluids or ruptures, which can cause significant life safety hazards and facility damage."*³²⁸
250. During the course of installing the Trains, Claimants discovered hundreds of problems with valves. Repair of these problems is ongoing.
251. First, hundreds of valves were simply missing. For Train 1, alone, nearly 250 valves were not installed by GE during fabrication of the modules. Many more valves were never installed on Train 2 during fabrication.³²⁹ Despite these hundreds of missing valves, GE remarkably inspected, tested and certified every module as complete before delivery to Claimants.
252. Second, among the valves that GE did include, many were installed backwards.³³⁰ There were so many backwards valves that GE eventually hired a third party contractor in Nigeria to locate and repair them all; it took the contractor almost six months to do the job.³³¹

³²⁷ Pirijns Witness Statement, ¶¶ 14.130-14.134.

³²⁸ Exponent Expert Report, Part 3.2.1.

³²⁹ Pirijns Witness Statement, ¶¶ 14.18-14.24; Exhibit C-141 (annotated May 5, 2018 Train 1 punch list showing valve defects); Exhibit C-20.

³³⁰ Exhibit C-206 (annotated June 6, 2017 Train 1 punch list showing backwards valves).

³³¹ Pirijns Witness Statement, ¶¶ 14.110-14.114.

Again, however, GE had somehow managed to inspect, test and certify every module before it was delivered.

253. Third, hundreds of valves and valve plugs were corroded.³³² GE initially claimed the rust was superficial.³³³ GE eventually accepted responsibility and hired a third party to remove the rust. However, GE refused to replace the corroded valves.³³⁴ The work to repair GE's defective tropicalization took GE months to complete.³³⁵
254. Fourth, many PRVs and other critical valves have required recalibration and repair. Given all of GE's delays and defects, Trains 1 and 2 have been sitting idle in the tropical environment for years. In November 2016, Claimants requested that GE test these critical valves to ensure they were still functioning properly.³³⁶ GE initially refused, claiming that the valves would be fine.³³⁷ Claimants, however, were unpersuaded, and GE ultimately agreed to test a few valves to prove its point. The failure rate on the sampled PRVs was 75 percent.³³⁸
255. This eventually led to testing all of the PRVs, 217 critical valves identified by GE, and an additional 106 critical valves identified by Claimants. Many of the valves failed and required repair or, in some cases, replacement.³³⁹
256. The valve issues are still not over. During the February 2019 meeting in Rumuji, GE conceded that 22 PRVs need to be retrofitted with back pressure relief devices that were

³³² Pirijns Witness Statement, ¶ 14.25.

³³³ Pirijns Witness Statement, ¶ 14.26.

³³⁴ Pirijns Witness Statement, ¶ 14.27.

³³⁵ Pirijns Witness Statement, ¶ 14.28.

³³⁶ Pirijns Witness Statement, ¶¶ 14.29-14.30; Exponent Expert Report at p. 35.

³³⁷ Pirijns Witness Statement, ¶ 14.29.

³³⁸ Pirijns Witness Statement, ¶ 14.32; Exponent Expert Report at p. 35.

³³⁹ Pirijns Witness Statement, ¶¶ 14.33-14.37.

not in the engineered design.³⁴⁰ Once installed, GE will then have to calibrate and recertify each of these PRVs. GE has not yet begun any of this work.

257. The magnitude of these valve defects (which arise from defective engineering, fabrication and tropicalization), GE's false certifications before delivery of each module, and GE's obstructiveness when asked to test critical valves for operability, establishes its grossly negligent and/or willful misconduct. GE's denials and delays were equally wrongful.

15. Hundreds of Missing, Defective and Improperly Sized Instruments

258. Every module contains instrumentation required to monitor temperatures, pressures and to take other critical measurements during operations. Claimants have discovered hundreds of instrumentation defects, the repairs of which are ongoing.
259. First, as with the valves, GE failed to install hundreds of instruments prior to shipping the modules. Train 1 was missing over 220 instruments that GE was responsible for installing. Train 2 also was missing much more.³⁴¹ Despite these missing parts, GE certified every module as complete before it was delivered.
260. Second, many of the installed instruments were not actually wired to the junction panel.³⁴² Disconnected, they were useless. GE could not have tested these components before they were delivered.
261. Third, some instruments were not properly sealed. In the damp Nigerian climate, they have become clouded by moisture and are unreadable. On others, the covers have been bleached by the sun and have turned opaque.³⁴³

³⁴⁰ Exhibit C-186 (Letter from IEC to GE, dated February 28, 2019); Exhibit C-243 (Respondents' revisions to Claimants' draft Minutes of meeting on February 12-13, 2019).

³⁴¹ Exhibit C-187 (annotated May 5, 2018 Train 1 punch list showing instrumentation defects); Exhibit C-20 (punch list for Train 2).

³⁴² Exhibit C-187.

³⁴³ Exhibit C-187; Pirijns Witness Statement, ¶ 14.82.

262. Fourth, some instruments were improperly sized. Level transmitter probes, for example, were longer than their mounting bridles, requiring Claimants to cut each probe down to size before installation. GE also provided temperature gauges with a rod diameter larger than the inner diameter of the thermowell in which it was too be installed, requiring GE to order replacement transmitters.³⁴⁴
263. Fifth, due to GE's delays in completing delivery of operational Trains, the instruments' calibration certificates have expired. Nearly all instruments across both Trains must be recalibrated prior to commissioning. GE has been refusing to do so.³⁴⁵
264. The magnitude of these instrumentation defects (which arise from defective engineering, fabrication and tropicalization), GE's false certifications before delivery, and GE's obstructiveness when asked to recertify the instruments, establishes its grossly negligent and/or willful misconduct. GE's denials and delays were equally wrongful.

16. Defective Electrical Cable Boxes

265. Each module contains at least one electrical box for electrical cable connections. In May 2016, the beginning of the Nigerian rainy season, Claimants discovered moisture (sometimes puddles of water) inside cable boxes provided by GE.³⁴⁶ Investigation has revealed multiple defects with the cable boxes. These defects "*pose a serious safety risk ... resulting in electrical faults, equipment failure, and fires.*"³⁴⁷
266. First, water enters some cable boxes through the holes through which the cables are pulled because GE failed to install the rubber glands that are intended to create a snug fit around the cables.³⁴⁸ GE had nonetheless certified that these modules had been inspected and tested before delivery.

³⁴⁴ Exhibit C-187; Pirijns Witness Statement, ¶¶ 14.86-14.87.

³⁴⁵ Pirijns Witness Statement, ¶ 14.83.

³⁴⁶ Pirijns Witness Statement, ¶¶ 14.148-14.149.

³⁴⁷ Exponent Expert Report, Part 5.2.4.

³⁴⁸ Pirijns Witness Statement, ¶ 14.152.

267. Second, the glands that GE did install were improperly sized. In 2017, GE suggested that Claimants “*shov[e] loose **pieces of wire** into the oversized glands to fill the gaps.*” This proposal — which could have only been more ridiculous if GE had recommended Claimants patch the defective Trains with chewing gum — was quickly abandoned.³⁴⁹ But, incredibly, GE once again proposed the same ridiculous “solution” a few months later.³⁵⁰ Ultimately, GE agreed to repair the hundreds of missing or incorrectly sized glands, which took until September 2017 to complete.³⁵¹ Even then, the repairs have been inadequate and Claimants have purchased 1,000 kgs of silica, which they place in the cable boxes to absorb moisture.³⁵² GE has still provided no permanent solution.
268. Third, GE also failed to account for the need to access the cable boxes during inclement weather. As designed, there was no overhead protection of the cable boxes, which meant the cable boxes could not be opened in rain — the Nigerian rainy season lasts about six months — without exposing the electrical connections to water.³⁵³
269. When Claimants raised this issue, GE acknowledged the inadequacy of the design, and provided tiny “roofs” for the cable boxes, which as Mr. Pirijns explains: “*GE engineered [these roofs so that they] would drain directly onto the head of the operator as he stood outside the panel during access, posing risk of electrocution.*”³⁵⁴ The size and positioning of these roofs fixes virtually nothing. GE has not taken any further action to resolve this serious engineering defect.
270. GE’s failure to engineer, procure and fabricate the cable boxes properly creates serious safety issues for the personnel who will operate the Trains. These defects also create

³⁴⁹ Pirijns Witness Statement, ¶ 14.153; Exhibit C-218.

³⁵⁰ Pirijns Witness Statement, ¶ 14.155; Exhibit C-223.

³⁵¹ Pirijns Witness Statement, ¶ 14.156.

³⁵² Pirijns Witness Statement, ¶ 14.157.

³⁵³ Pirijns Witness Statement, ¶ 14.158.

³⁵⁴ Pirijns Witness Statement, ¶¶ 14.159, 14.160.

durability concerns. Although GE has committed to a 20-year design life for the Trains, the cable boxes have already begun rusting due to the accumulating moisture.³⁵⁵

271. The high number of missing or improperly designed glands, GE's reckless engineering of the cable boxes and their overhead protection for a tropical environment, GE's false certifications before delivery and GE's failure to remedy (or to remedy promptly) these defects when identified, establishes its grossly negligent and/or willful misconduct. GE's denials and delays were equally wrongful.

17. Tens of Thousands of Missing and Defective Nuts, Bolts, and Studs

272. When Claimants began uncrating the modules in early 2016, they were immediately confronted with several different types of nut, bolt, and stud issues. These issues, too, pose serious safety risks: *"A review of 100 major onshore oil, gas, and petrochemical losses from 1996 to 2005 revealed that 19% of all examined mechanical integrity failure losses were the result of bolted joint/seal failures."*³⁵⁶
273. First, GE had used nuts, bolts, and studs made of different types of steel: mild steel, galvanized steel and stainless steel. Remarkably, these different materials were sometimes mixed on the same pipe or flange.³⁵⁷
274. Second, the nuts, bolts and studs made of unprotected, mild steel, were already rusting and corroding.³⁵⁸ Review of photos from GE's fabrication yard reveals that they were already rusting, but GE authorized their shipment and delivered them to Claimants anyway.³⁵⁹
275. Third, nuts and bolts were completely missing in some locations.³⁶⁰

³⁵⁵ Pirijns Witness Statement, ¶ 14.149.

³⁵⁶ Exponent Expert Report, Part 5.2.3.

³⁵⁷ Pirijns Witness Statement, ¶¶ 14.3, 14.5-14.8.

³⁵⁸ Pirijns Witness Statement, ¶ 14.3, 14.5-14.8.

³⁵⁹ Exponent Expert Report, Part 5.3.

³⁶⁰ Pirijns Witness Statement, ¶ 14.4.

276. All of these problems were apparently unnoticed by GE's inspectors when they examined and certified every module as complete and ready for shipment.³⁶¹ When Claimants' representatives visited GE's fabrication yard and pointed these defects out, GE admitted the defects and offered assurances that they would be remedied. But they were not.
277. From January 2016 and for many months thereafter, Claimants repeatedly and urgently notified GE of issues with tens of thousands of nuts, bolts, and studs throughout both Trains. It took GE until mid-2016, when Mr. Cohen, its then-project manager, visited the site, for GE to accept the need to replace this defective hardware.³⁶² Even then, GE delayed delivery of the galvanized nuts, bolts and studs for months, and insisted that Claimants provide the labor to replace the more than 40,000 pieces throughout the Trains.³⁶³
278. The selection of mild steel for Nigeria's tropical environment, the high number of missing and mismatching hardware and GE's false certifications before delivery establishes its grossly negligent and/or willful misconduct. GE's failure to remedy (or to remedy promptly) these defects when identified was equally wrongful.

18. Hundreds of Rusted or Missing Spectacle Blinds

279. The piping systems on each modules were engineered with spectacle blinds, a device that is open and exposed to the environment during normal operation and closed by rotation to close and seal a section of the pipeline during maintenance.³⁶⁴ Claimants have discovered two defects with the spectacle blinds.
280. First, GE engineered the Trains with mild steel spectacle blinds despite their intended use in the Nigerian tropics. Predictably, the spectacle blinds are deteriorating by corrosion.³⁶⁵

³⁶¹ Exhibit C-101 (Release for Packing Forms for Train 1 Modules); Exhibit C-103 (Inspection and Test Plan Matrices for Train 1 Modules).

³⁶² Exhibit C-133; Pirijns Witness Statement, ¶ 14.9.

³⁶³ Pirijns Witness Statement, ¶¶ 14.11-14.16.

³⁶⁴ Pirijns Witness Statement, ¶ 14.64.

³⁶⁵ Pirijns Witness Statement, ¶¶ 14.65-14.67.

Because the blinds are intended to seal off sections of the pipe during maintenance, over time the rusting will create sealing issues that render the spectacle blinds ineffective.³⁶⁶

281. Second, by comparing the delivered modules to the P&IDs, Claimants also discovered that spectacle blinds are missing for some of the piping. To remedy this defect, it has been necessary to cut sections of pipe and install the spectacle blinds.³⁶⁷
282. GE's selection of mild steel for Nigeria's tropical environment, combined with its failure to provide all engineered spectacle blinds, is still another example of GE's grossly negligent and/or willful misconduct.

19. Failure to Provide Heat Tracing on Equipment and Lines

283. Heat tracing is an electrical wire that is wrapped around pipes and vessels to maintain a steady temperature. It is needed for much of the piping and some of the components in the Trains.³⁶⁸
284. The Trains, however, were delivered with very little heat tracing. Claimants discovered this problem and alerted GE. Once GE eventually accepted that this was their error, it took several months for them to start deliver the heat tracing wire. The delivery process continued for a long time, until sometime in 2018. Installation was then a laborious process that required GE to remove the insulation, install the heat tracing and then re-install the insulation. By the end of November 2017, heat tracing installation was only about 15% complete. When GE declared mechanical completion on Train 1 in May 2018, heat tracing-related tasks were still outstanding.³⁶⁹
285. GE's failure to engineer for, or install, the necessary heat tracing was grossly negligent and/or willful misconduct. The Shell Reference Plant has heat tracing, but GE wrongfully

³⁶⁶ Pirijns Witness Statement, ¶ 14.68.

³⁶⁷ Pirijns Witness Statement, ¶ 14.69.

³⁶⁸ Pirijns Witness Statement, ¶ 14.174.

³⁶⁹ Pirijns Witness Statement, ¶ 14.175.

chose to remove it from Claimants' trains, only re-introducing it after Claimants' repeated complaints

20. Inferior Boil-Off Gas Compressor

286. Module M-0600 is the module for the boil off gas ("BOG") compressor in each Train. The BOG compressor is required to pressurize the BOG so that it can be recycled for other use. In the case of Claimants' trains, the BOG is intended for fueling the power plant.³⁷⁰
287. The Shell Reference Plant uses a high-end BOG compressor manufactured by Ariel. It operates at low rotating speeds and is an extremely reliable unit. Apparently to save money, GE substituted one of its own, Gemini compressors in Claimants' Trains. The Gemini compressor rotates at much higher speeds, resulting in greater maintenance requirements and a shorter life span than the Ariel equipment that should have been supplied.³⁷¹
288. GE's failure to engineer and deliver the Trains with BOG compressors of equal reliability to the Reference Plant was another profit-driven violation of its commitment to Claimants.

21. Amine Column Pumps Without Glycol Protection

289. The M-200 includes two, Schlumberger pumps for the amine column. On Train 1, GE properly filled those pumps with glycol before delivering them to provide corrosion protection. On Train 2, however, GE neglected to use glycol, delivering the pumps in a dry condition.³⁷²
290. In May 2017, Claimants inspected the amine pumps on Train 2 and discovered that they were frozen. Further investigation revealed the absence of glycol and presence of rust on the metal internals of the pumps. The same pumps on Train 1, charged with glycol, worked

³⁷⁰ Pirijns Witness Statement, ¶¶ 14.136-14.137.

³⁷¹ Pirijns Witness Statement, ¶¶ 14.142-14.143.

³⁷² Pirijns Witness Statement, ¶¶ 14.88-14.90.

fine. After months of delay, GE arranged for field service repairs and the charging of the pumps with glycol.³⁷³

291. GE's failure to use proper preservation methods on these pumps before delivering them led to further defects in Train 2. While this incident, alone, might reflect carelessness or oversight, when considered in the full context, it further confirms the gross negligence or willful misconduct of GE.

22. Mostly Inexperienced and Unsupervised On-Site Support Personnel

292. The personnel that GE provided to perform the promised services under the Equipment Contract were neither competent nor knowledgeable about LNG production plants. GE's on-site personnel were not helpful in resolving the issues that Claimants confronted during set-up and installation of the Plants, including the innumerable issues that arose due to GE's failure to provide fully-modularized Plants.
293. As Mr. Srinivasan explains in his witness statement, "*virtually every time we asked a question, they told us that they needed to go back to GE in an email ... for a response. It would often take a week or two to get an answer, or there would be no response at all.*"³⁷⁴
294. The problem Mr. Srinivasan learned, was that "*both individuals told me that they had no prior experience or training with the erection/construction of a small-scale LNG facility. ... I learned that Michael's prior experience included compressors and turbo generators and Joshua's experience was on compressors and gas turbines.*"³⁷⁵
295. Similarly, the inspector that GE placed at its fabrication subcontractor, an individual named James Chesnut, had no prior experience in the LNG business. Prior to this job with GE, he had served as a radio operator in the U.S. military.

³⁷³ Pirijns Witness Statement, ¶¶ 14.91-14.93.

³⁷⁴ Srinivasan Witness Statement, ¶¶ 3.2-3.3.

³⁷⁵ Srinivasan Witness Statement, ¶ 3.5. *See also* Srinivasan Witness Statement, ¶¶ 6.1-6.4 (explaining, *inter alia*, that another supervisor who was present "told me his prior job had been as a radio operator [and he] had no prior experience with LNG").

296. GE's assignment of persons who had no experience (much less, specialization) with LNG or the trains being sold to Claimants was grossly negligent or willful misconduct. Had Claimants not had the experience and consultants needed to support their work, reliance on GE's incompetent "supervisors" could have led to misdirection and mistakes with damaging consequences.

23. Incomplete Operation and Maintenance Documentation

297. The Equipment Contract obligates GE to deliver standard Operation and Maintenance Manuals ("**O&M Manuals**"), and functional descriptions in sufficient detail to enable competent personnel to operate, maintain and repair the Plants.³⁷⁶ At various points throughout the project, when commissioning of the Plants appeared (albeit deceptively) to be imminent, Claimants requested that GE provide the promised O&M Manuals. GE has continually failed to do so.³⁷⁷
298. GE initially tried to shift its delay in providing the manuals to third-party equipment suppliers, but in reality, GE has not prepared the required manuals. Even the subset of commissioning procedures and system installation, operation, and maintenance manuals provided by GE in mid-April 2017 were woefully deficient, lacking any specific procedures and conflicting with one another.³⁷⁸ Just last month, GE acknowledged that the promised manuals are still not complete and are currently being revised.³⁷⁹
299. Without the promised O&M Manuals, it is impossible to start up and operate the Plants.
300. GE's failure to deliver O&M Manuals despite repeated requests reflects an utter disregard for Claimants' interests. It also undermines Claimants' ability to prosecute this Arbitration since those manuals will likely confirm significant further defects and deficiencies in GE's performance.

³⁷⁶ Exhibit C-1, Clause 12.2.

³⁷⁷ Pirijns Witness Statement, ¶ 14.145.

³⁷⁸ Pirijns Witness Statement, ¶ 14.146.

³⁷⁹ Pirijns Witness Statement, ¶ 14.147; Exhibit C-243.

III. ARGUMENT

301. GE has committed multiple breaches of the Contracts. Those breaches are addressed in Part A, below. GE has also engaged in fraud, both (i) by inducing IEC to enter into the Contracts through knowingly false statements of its capabilities and (ii) by knowingly misleading Claimants to continue working with GE — instead of terminating the Contracts and returning to China — through knowingly false statements and omissions regarding its capabilities and its inability to correct its errors and get the project on track. These frauds are addressed in Part B, below.

A. GE Has Breached the Equipment and Services Contracts

302. A claim for breach of contract requires four elements: (1) the existence of an agreement, (2) performance of the contract by the party asserting the breach, (3) breach of the agreement by the other party, and (4) damages.³⁸⁰

303. There is no question that the Equipment and Services Contracts are valid, binding agreements. Notwithstanding GE's late emerging allegations to the contrary, IEC has performed under the Contracts.

304. GE has committed multiple breaches of the Equipment and Services Contracts. The Trains delivered by GE were not: (i) delivered within the nine- and twelve-month delivery deadlines, (ii) fully-modularized, (iii) capable of producing 0.25 MTPA of LNG, (iv) defect-free or (v) tropicalized, each of which is required under the Equipment Contract.

305. Additionally, GE failed to provide meaningful supervision of installation of the Trains and adequate pre-commissioning and commissioning procedures under the Services Contract.

306. As presented to the U.S. District Court for the Southern District of New York, each of the Respondents is liable for these contractual breaches.

³⁸⁰ See *Harsco Corp. v. Segui*, 91 F.3d 337, 348 (2d Cir. 1996) (CL- 1).

- (a) Both BHGE LLC and BHGE are successors of GEOG and GE Nigeria and thus have successor liability for the contractual breaches. The BH Entities have stepped in and taken over performance of the Contracts after the merger between GEOG and Baker Hughes was effected in 2017.³⁸¹ General Electric Company merged its entire oil and gas business — including all such business being carried on by subsidiaries (such as GEOG and GE Nigeria) — into a new entity that would eventually become known as BHGE LLC.³⁸² BHGE LLC is carrying on the identical oil and gas business previously performed by, among others, General Electric Company subsidiaries GEOG and GE Nigeria, with continuity of employees, supervisors, and senior management; continuity of business locations; and continued performance of the Contracts by BHGE LLC. Therefore, BHGE LLC is bound to proceed to arbitration under successor liability.
- (b) In addition, BHGE LLC and BHGE are alter egos of the original contracting parties, GEOG and GE Nigeria. GEOG's website is gone, but now BHGE and GEOG supposedly "share" a website (which incidentally contains no references to GEOG as a going concern).³⁸³ Following the merger, former GEOG employees and new individuals sent to the site for purposes of rectifying GEOG's deficient engineering and defective components identified themselves as BHGE employees or designated subcontractors. Before the merger, senior-level project interactions with GEOG were handled by Mr. Lorenzo Simonelli (based in Italy). Post-merger, Mr. Simonelli continued to be the senior-management contact, but he is (and is acting solely as) the President of BHGE. Indeed, GEOG no longer has separate, independent financial reports, and its federal tax returns are consolidated with and reported by BHGE LLC. In light of these facts and the record as a whole, any effort

³⁸¹ See Exhibit C-742, excerpted pages from Baker Hughes Inc.'s 14A filing with the SEC, the complete filing of which is available at <https://investors.bhge.com/static-files/fd5f48b3-6c6c-4965-b604-ed04a5ff508b>; Exhibit C-743, excerpts from BHGE LLC's Form 8-K filing with the SEC, available at <https://investors.bhge.com/static-files/250455b8-338a-404b-8f8e-5c6be1d614d2>.

³⁸² See Exhibit C-742

³⁸³ See www.bhge.com (visited March 15, 2019).

to shield BHGE LLC and BHGE from liability for the contractual breaches cannot stand.

307. Claimants incorporate by reference their pleadings on these issues in the New York court,³⁸⁴ as well as the relevant legal authorities submitted in that case.³⁸⁵ Claimants will further develop these issues in this arbitration as appropriate following a ruling from the New York court.
308. As discussed in more detail in Part III.C., below, IEC and Greenville have suffered significant damages as a result of GE's multiple breaches of the Equipment and Services Contracts.

1. Greenville is a Third-Party Beneficiary of the Equipment Contract and Services Agreement

309. Greenville, as a third-party beneficiary of the Contracts, is also entitled to recover its damages from GE's breaches of the Contracts. The parties anticipated and intended that a Nigerian operating subsidiary of IEC would participate in and benefit from the Sales Contract.³⁸⁶ Indeed, that is a requirement of Nigerian law, and the reason that GE relied on a Nigerian company to provide services in Nigeria under the Services Contract.³⁸⁷ Consistent with this, the parties included provisions in the Sales Contract making clear that it would run to the benefit of Greenville or a similar entity. As such, Greenville was an intended third-party beneficiary of the Sales Contract and can assert claims thereunder, including under the arbitration clause.
310. Under New York law, a non-party may properly bring claims under a contract, including under an arbitration clause, so long as it is a third-party beneficiary of that contract. A

³⁸⁴ Exhibit C-758.

³⁸⁵ Exhibits CL-51 to CL-119.

³⁸⁶ Helsen Witness Statement, ¶ 10.

³⁸⁷ See Companies and Allied Matters Act, Cap C20 Laws of the Federation of Nigeria, 2004 (CL-2). This Act provides in section 54 that a foreign company cannot carry on business in Nigeria unless incorporated as a separate entity in Nigeria for that purpose.

party is a third-party beneficiary where (i) there was a valid agreement between other parties; (2) the contract was intended in part for its benefit; and (iii) the benefit was sufficiently immediate to indicate the assumption by the contracting parties of a duty to compensate the third party.³⁸⁸ Phrased otherwise, beneficiary status simply requires a showing that (i) recognition of the third-party's right to performance would carry out the intention of the direct parties to the contract, and (ii) the promisee intended the third-party would benefit from the promised performance.³⁸⁹ There is no requirement that the third party be specifically named in the agreement, or that the specific party be known at the time of execution, so long as the parties intended that third parties such as the beneficiary should benefit from the agreement.³⁹⁰

311. Here, the parties knew and intended throughout negotiations that a Nigerian operating subsidiary of IEC would own and operate the Plant, including the liquefaction trains sold by GE. From the early discussions with GE, it was clear that the trains GE was selling would be operated by a Nigerian operating company owned by IEC. Mr. Erik Helsen explained that this was discussed with GE as early as August 2014 during GE's Know Your Customer investigation.³⁹¹ Mr. Helsen discussed it again with GE during September 2014 discussions about potential EXIM Bank financing.³⁹² That GE understood Greenville's role in the project is reinforced by an information memorandum that GE prepared for the EXIM Bank in June 2015.³⁹³ Moreover, Greenville has actively participated in performance of the contracts from the outset through today. Greenville's role in the project was known to and accepted by GE.

³⁸⁸ *Board of Educ. Of Northport-East Northport Union Free School Dist. v. Long Island Power Authority*, 130 A.D.3d 953, 954–55 (N.Y. App. Div. 2015) (CL- 2).

³⁸⁹ *In re Gulf Oil/Cities Serv. Tender Offer Litig.*, 725 F. Supp. 712, 733 (S.D.N.Y. 1989) (CL- 4).

³⁹⁰ *Long Island Power Authority* (CL- 2), 130 A.D.3d at 954.

³⁹¹ Helsen Witness Statement, ¶ 10.

³⁹² Helsen Witness Statement, ¶ 11.

³⁹³ Exhibit C-321.

312. Indeed, although the Sales Agreement did not name Greenville specifically, it anticipated in several places that a subsidiary such as Greenville would ultimately run the plant and receive the benefit of the contract. For example, GE bargained for an indemnification right from IEC in cases where “Buyer is furnishing Seller’s Plants or Parts to a third party by contract or using Plants or Parts at a facility owned by a third party.”³⁹⁴ GE anticipated that such a third party would have rights against GE under the Contract; the indemnification thus applies only to amounts “*in excess of the limitations and exclusions provided in this Agreement.*”³⁹⁵ The parties made clear that such third parties would be considered third party beneficiaries of the Sales Contract. Although the Sales Agreement includes a statement that “*the provisions of this Agreement are for the benefit of the Parties hereto and not for any other third party,*” it explicitly carves out beneficiaries “*provided herein, including Clause 19.*” The Second Circuit Court of Appeals, considering similar language, concluded that such carveouts are significant in showing party intent to convey rights under the agreement to third parties.³⁹⁶

2. GE breached the Equipment Contract by failing to deliver the Plants by their respective Delivery Dates

313. As discussed above, GE was required under the Equipment Contract to deliver fully functional, factory tested skids that could then be connected together in the field into a fully functioning liquefaction plant. GE originally promised to deliver all such skids for Trains 1 and 2 to the port of export by June 13, 2015 and September 13, 2015, respectively. These delivery deadlines were slightly adjusted to June 24, 2015 and September 24, 2015 for Trains 1 and 2, respectively, as the result of an 11-day extension of time.

³⁹⁴ Exhibit C-1, Clause 19.4.

³⁹⁵ Exhibit C-1, Clause 19.4.

³⁹⁶ *Bayerische Landesbank v. Aladdin Cap. Mgmt.*, 692 F.3d 42, 53–54 (2d Cir. 2012) (CL- 5), *see also Dean St. Cap. Advisors, LLC v. Otoka Energy Corp.*, 2016 WL 413124, at *5–6 (S.D.N.Y. Feb. 1, 2016) (CL- 6) (concluding that language excluding claims “except as provided hereinbelow” was ambiguous, and plausibly permitted third party beneficiary status to party mentioned elsewhere in the agreement).

314. By the extended delivery deadlines, however, only the pipe racks for Trains 1 and 2 had been delivered, in March and May 2015, respectively. The next modules for Train 1 were not delivered for another seven months, until October 2015, and the final modules for Train 1 were not delivered until February 2016 — over seven months after the contracted delivery date for Train 1.
315. The next modules for Train 2 were not delivered until six months after the pipe rack, in November 2015. The final modules for Train 2 were not delivered until March 2016 — over five months after the contracted delivery date for Train 2.
316. Even delivery of the modules, however, did not satisfy GE’s contractual obligation. Clause 9.1 of the Equipment Contract states that the “*Delivery Date*” is “*the date on which Plant in its entirety is delivered.*” As explained above and in the expert report of Mr. Lancaster, neither train was delivered in its entirety when the modules were delivered because those modules were woefully incomplete.³⁹⁷ In fact, GE has now admitted that critical pipe supports, cables, VFDs, manuals and more remain outstanding.³⁹⁸ All of those elements of the Trains are unlikely to be delivered before 2020.
317. GE did not come close to meeting the Equipment Contract’s delivery dates, and it knew when signing the Equipment Contract that it never could have. Its breaches are knowing and willful.

3. GE breached the Equipment Contract by failing to deliver fully-modularized Plants

318. Despite full modularity being an essential feature of the Equipment Contract, the Trains were not only delivered late, but also incomplete. As discussed above, the Equipment Contract requires that “[a]ll major equipment, piping, valves, electrical and instrument

³⁹⁷ Lancaster Expert Report, Section 6.1.

³⁹⁸ The Equipment Contract’s definition of “*Plant*” “*means the fully-modular small scale LNG production plants ... which shall include all equipment, components, materials, supplies, products, manuals and other goods to be supplied by Seller to Buyer, as more specifically described in Appendix A.*” Exhibit C-1, Clause 1.

components shall be prefabricated and installed on skidded modules.” GE’s representations were that full modularity would make installation in Nigeria simple, requiring a minimum of effort and time.³⁹⁹

319. From the outset, however, GE shipped modules with parts missing, leading to loose parts being thrown in with future module shipments and many separate deliveries containing only loose parts. Yet inexplicably, both GE and its subcontractor Turner signed off on inspection matrices for each of these modules prior to delivery, certifying that the modules were complete without any pending punch list items or non-conformance.
320. In reality, thousands of parts were identified during the ensuing years as missing from these supposedly “fully-modularized” Trains, including hundreds of valves, hundreds of instruments, hundreds (perhaps thousands) of nuts and bolts, pipe supports and U-bolts, MRC couplings, electrical cable, cable tray materials, heat tracing, and insulation.
321. Missing items on both Trains 1 and 2 have been continually shipped for years. For example, missing items on ten different modules of Train 1 were shipped in May and June 2017, and items for another Train 1 module were shipped in January 2018. Similarly, missing items on ten different modules on Train 2 were shipped in June and September 2017 followed by items for another Train 2 module in January 2018. And, even this year, GE continues to ship missing items for modules on both Trains 1 and 2.
322. In reality, both Trains were largely fabricated — and sometimes re-fabricated — on site in Nigeria between 2016 and today. As of today, significant additional work remains necessary. The Shell “Reference Plant,” by contrast, was fully modularized and was assembled by Mr. Srinivasan of Greenville and eight workers in under four months.⁴⁰⁰

³⁹⁹ Van den Broeke Witness Statement, ¶¶ 7.27, 6.14, 7.30; Pirijns Witness Statement, ¶ 4.11; *see* Exhibit C-2, Clause 1.1 (providing for 13 weeks of installation supervision).

⁴⁰⁰ Srinivasan Witness Statement, ¶ 4.6.

323. The sheer magnitude of the incompleteness of the modules, combined with the falsified certifications of completion, establish that this contractual breach was knowing and willful, as well.

4. GE breached the Equipment Contract by Failing to Deliver Plants capable of producing 0.25 MTPA of LNG

324. As discussed above, GE agreed to provide two fully-modularized small scale LNG plants that would each produce 0.25 MTPA, the equivalent of 765.1 TPD, as set out in Annex B to Appendix A of the Equipment Contract. Annex B provides a Process Flow Diagram of GE's design, confirming that each Train would produce that volume each day from 36.28 MMSCFD (million standard cubic feet per day) of feed gas.
325. Because GE knew that its design was defective and would cause freezing in the cold box, it altered that design in a way that reduced the volume of LNG that each Train could produce. Instead of producing 765.1 TPD of LNG and 8.562 TPD of unstabilized condensate, GE's actual design will produce 680.6 TPD of LNG and 85.3 TPD of unstabilized condensate. As a result, instead of producing 0.25 MTPA of LNG, each Train is only capable of producing 0.22 MTPA.
326. Recognizing this deficiency, GE admitted to Claimants in late 2016 that they would need to purchase a fractionation column in order to obtain the contractually specified volumes of LNG. GE sought to sell the fractionation column to Claimants.
327. Claimants breach was knowing and willful. As explained at paragraphs 167-181, above, GE likely knew at the time it signed the Equipment Contract that its design would not work. If GE did not know then, it certainly knew within several weeks, before ordering the cold box from Chart. GE knowingly failed to disclose this defect or to take responsibility for providing the necessary equipment to ensure the Trains produced LNG in accordance with the terms of the Equipment Contract.

5. GE breached the Equipment Contract by failing to deliver defect-free Plants

328. As mentioned above, GE warranted under the Equipment Contract that “*the Plants and/or Parts shall be free from Defects in material, workmanship and title*” and agreed that IEC is entitled to direct damages if GE “*fails or is unable to remedy a Defect within a reasonable time.*”
329. This is not a case where GE simply made a mistake ... or even a few. As summarized above, the Trains are riddled with Defects. And many of those defects are life-threatening and potentially plant destroying.
330. In addition to the missing and non-tropicalized items, the Plants were delivered with innumerable other Defects that Claimants have discovered (and continue to discover). Those defects permeate throughout all stages of this project, from engineering to procurement to fabrication.
331. GE designed unsafe flare system piping without enough slope to self-drain, making it likely that liquid will build up in the piping and eventually lead to its failure. It under-engineered the electrical cables in both Trains, presenting significant risks of overheating and fire. It failed to perform appropriate stress analysis of the piping system, resulting in the need for repairs to over 70 piping systems across both Trains. It engineered a start-up solution that is incapable of starting the critical MRC motors. It designed expansion bellows that failed even under minimal testing pressure and could have released deadly, explosive mixed refrigerant under full operating pressure. It delivered ICPs without hydrotesting them to know that some were defective and could have failed under operating pressures. It removed structural supports from the MR cooler. And this list can go on and on.
332. GE procured the MRCs from one supplier and their motors from another supplier, resulting in the need to perform a risky field alignment. The MRCs also had recalled IGVs about which GE failed to inform IEC. It procured a BOG compressor with a high rotating speed that will require extra maintenance and have a shorter lifespan. It provided amine pumps that seized up because they were shipped without glycol.

333. GE delivered modules with numerous valves, a static mixer, and several bellows installed backwards, any one of which could have led to a major safety incident if GE had been able to start either of the Trains. GE delivered modules with countless leaking valves. It provided MRCs for Train 2 with anchoring feet that did not align with the foundation bolt locations provided by GE. It delivered modules that were misaligned.
334. GE's repairs of the numerous defects in these Plants is still ongoing. In the last month alone, GE acknowledged that: (1) 37 modifications to piping supports need to be made on each Train; (2) electrical cables on both Trains must be ripped out, reengineered, reordered, and reinstalled; (3) a new start-up mechanism must be engineered and obtained; (4) 22 PRVs must be retrofitted with back pressure relief devices; and (5) hundreds of instruments on each Train must be recalibrated prior to commissioning. The start-up of the Plants is delayed indefinitely while GE fixes these defects that should never have happened in the first place.
335. Even if these innumerable failures do not evidence willfulness, they are surely the result of GE's gross negligence. Such conduct "*betokens a reckless indifference*" to Claimants' contractual rights constituting "*an extreme departure from the standards of ordinary care.*"⁴⁰¹

6. GE breached the Equipment Contract by failing to deliver tropicalized Plants

336. As discussed above, GE agreed under the Equipment Contract that the Plants would be "*treated to resist deterioration due to the normal prevailing local conditions on Site.*" GE

⁴⁰¹ *Kalisch-Jarcho, Inc. v. City of New York*, 58 N.Y.2d 377, 385 (N.Y. 1983) (CL- 7); *Bayerische Landesbank* (CL- 5), 692 F.3d at 61, 65 (internal citation and quotation marks omitted) (determining that, while one failure may have been "merely an oversight," that failure supported an inference of gross negligence when "aggregated with the other allegations"); *see also Williamson-Green v. Equip. 4 Rent, Inc.*, 46 N.E.3d 571, 575 (Mass. App. Ct. 2016) (CL- 8) ("[P]ersistence in a palpably negligent course of conduct over an appreciable period of time is one of the more common *indicia* of gross negligence." (internal citation, alteration, and quotation marks omitted)).

knew the Plants would be installed in a tropical environment, yet it failed to tropicalize the Plants.

337. The materials selected by GE for the tens of thousands of nuts, bolts, and studs was inconsistent throughout both Trains, with nuts and bolts made of inconsistent materials being used on even the same pipe or flange. In many cases, GE used nuts, bolts, and studs made from mild steel that had already rusted and corroded before leaving the fabrication yard for delivery to Claimants.
338. As the Trains sat idle for years as a result of GE's delays and defects, hundreds of valves and spectacle blinds also rusted in the Nigerian climate, requiring repairs to each individual valve and blind. But even these preservation methods will likely be insufficient to prevent future deterioration and failure of these parts.
339. From the very beginning of this project, Claimants cautioned GE that Nigeria has a lengthy and heavy rainy season. Yet instruments were not properly sealed and have become clouded with moisture, requiring replacement. The covers to other instruments have been bleached by the sun and rendered opaque. The cable boxes to which the equipment is connected were installed with open glands through which moisture penetrated leading to pools of water and rust inside. And GE has failed to provide overhead protection for those cable boxes, placing operators at risk of electrocution if work has to be performed within one of those boxes during the rainy season.
340. GE's failure to tropicalize the Trains was willful, and its continuing failure to address some of the issues seriously — such as the overhead protection for the cable boxes — continues to place Claimants' personnel at personal risk.

7. GE breached the Services Contract by failing to provide meaningful supervision of installation of the Trains

341. As discussed above, GE agreed to provide "*personnel who are competent and knowledgeable about the set-up, installation, commissioning, testing, operation and operator training of LNG production plants*" who would provide "*on-site supervision in Nigeria of the installation, start-up, commissioning and testing of the Plants . . . to ensure*

*that the Plants are properly installed and function to their designed and warranted capacities.”*⁴⁰²

342. The personnel GE provided to perform the promised services were neither competent nor knowledgeable about LNG production plants, particular the set-up and installation of the Trains. GE’s on-site personnel were not helpful in resolving the issues that Claimants confronted during the set-up and installation of the Trains, especially the issues that arose due to GE’s failure to provide fully-modularized Trains.

B. GE Fraudulently Induced Claimants to Enter Into the Equipment and Services Contracts

343. The elements of fraudulent inducement under New York law are easily satisfied in this case. Fraudulent inducement occurs where there is “(1) a misrepresentation or omission of material fact; (2) which the defendant knew to be false; (3) which the defendant made with the intention of inducing reliance; (4) upon which the plaintiff reasonably relied; and (5) which caused injury to the plaintiff.”⁴⁰³
344. Here, GE represented that it had the present ability to build fully-modularized small scale LNG plants on IEC’s timeframe. GE knew it had no such ability when it made those representations. We know this because of the admissions of Cody Lindsey.⁴⁰⁴ Mr. Lindsey admitted to a roomful of Greenville personnel that GE knew in 2014 that it could not meet the commitments it was making because, among other things, Salof executives had warned GE that the commitments were impossible to meet.⁴⁰⁵ Mr. Lindsay later repeated the same confessions to Mr. Van den Broeke privately at the Port Harcourt airport.⁴⁰⁶

⁴⁰² Exhibit C-2 at Recitals.

⁴⁰³ *Wynn v. AC Rochester*, 273 F.3d 153, 156 (2d Cir. 2001) (CL- 9).

⁴⁰⁴ See Van den Broeke Witness Statement, ¶¶ 8.9, 8.10; Sahajwalla Witness Statement, ¶¶ 27-30; Exhibit C-13.

⁴⁰⁵ See Van den Broeke Witness Statement, ¶¶ 8.9, 8.10; Sahajwalla Witness Statement, ¶¶ 27-30; Exhibit C-13.

⁴⁰⁶ Van den Broeke Witness Statement, ¶¶ 8.14-8.17; Exhibit C-14.

345. Moreover, it is indisputable that in August and September 2014, when GE made these misrepresentations, it knew that it had been incapable since 2011 to complete even the Reference Plant, which was the supposed model for Claimants' Trains. Indeed, when GE agreed to produce additional trains for Shell in 2013 that were based on the Reference Plant, it insisted on over two years to build those trains, including nine months just for the additional engineering needed to account for the difference between Canada and the American state of Georgia. As of August 2014, GE was far behind on that two-year schedule.⁴⁰⁷
346. GE could not conceivably have expected to design and engineer two new plants in less than half the time as the Shell plants, particularly when its resources were already fully occupied trying to catch up with its obligations to Shell. All of this was known to GE, but it was not known to Claimants. GE took advantage of Claimants' lack of knowledge, and lured IEC into negotiations and then contract through fraudulent representations of capabilities it knew it did not have. GE's fraudulent inducement has caused IEC/Greenville to suffer hundreds of millions of dollars of damage.

1. GE fraudulently misrepresented its present abilities to lure IEC into contracting with BHGE.

347. It is well settled under New York law that "*a claim based on fraudulent inducement of a contract is separate and distinct from a breach of contract claim.*"⁴⁰⁸ Such a claim cannot be rooted in a statement of future intent, and Claimants' fraudulent inducement claim is not.
348. The evidence demonstrates that GE knew in August and September 2014 that it could not meet the timeline for plant production and delivery to which it committed. It nonetheless promised to meet the unachievable timeline because it expected that such a promise was necessary to convince Claimants to buy the trains from GE at twice the cost being sought by GE's Chinese competitors. Such a promise made with "*a preconceived and undisclosed*

⁴⁰⁷ Griffin Witness Statement, Part 9.

⁴⁰⁸ *Merrill Lynch & Co. Inc. v. Allegheny Energy, Inc.*, 500 F.3d 171, 184 (2d Cir. 2007) (CL- 10).

intention of not performing it . . . constitutes a misrepresentation of ‘a material existing fact’” actionable as fraud under New York law.⁴⁰⁹

349. As opposed to statements about future intent, then, material representations about present capacity can establish fraudulent inducement. For example, in *Channel Master*, the New York Court of Appeals — the highest court in New York — held that the plaintiff’s allegations were sufficient to state a fraud claim based on the defendant’s representations concerning its ability to provide aluminum ingot.⁴¹⁰ The defendant allegedly stated that it had “*available and uncommitted supplies and productive capacity of aluminum ingot*” such that it could sell the plaintiff 400,000 pounds a month of aluminum ingot.⁴¹¹ In addition, the defendant stated that it had not entered into any binding commitments that could reduce its supplies and productive capacity in the future. Finally, the defendant stated that it intended to sell to the plaintiff 400,000 pounds a month for a period of five years. The New York Court of Appeals determined that these alleged misrepresentations “*related to the defendant’s present intention.*”⁴¹²
350. GE fraudulently represented its present capacity to build two LNG plants in nine and twelve months. As discussed above, GE first lured IEC into initial negotiations and a visit to Texas by offering IEC the opportunity to purchase an existing LNG plant manufactured for Shell. Then, having exacerbated the time pressure on IEC, GE took advantage of IEC’s visit and made a series of representations about its capacity to build plants for Claimants

⁴⁰⁹ *Sabo v. Delman*, 3 N.Y.2d 155, 160 (N.Y. 1957) (CL- 11) (citation omitted); *see also Channel Master Corp. v. Aluminium Ltd. Sales, Inc.*, 151 N.E.2d 833, 835 (N.Y. 1958) (CL- 12) (“[A] statement of present intention is deemed a statement of a material existing fact, sufficient to support a fraud action.”); *Sofi Classic S.A. de C.V. v. Hurowitz*, 444 F. Supp. 2d 231, 244, 248 (S.D.N.Y. 2006) (CL- 13) (determining that plaintiffs’ fraud allegations were not duplicative of their breach of contract claims where defendants allegedly made fraudulent representations and concealed material facts “concerning their intent and ability to perform under the Agreements”).

⁴¹⁰ *Channel Master* (CL- 12), 151 N.E.2d at 835-36.

⁴¹¹ *Channel Master* (CL- 12), 151 N.E.2d at 835.

⁴¹² *Channel Master* (CL- 12), 151 N.E.2d at 835.

like the Shell plant, but capable of handling heavy Nigerian gas and of withstanding the tropical environment.

351. Rather than “*a case of prophecy and prediction of something which it is merely hoped or expected will occur in the future,*” GE’s representations were “*a specific affirmation of an arrangement under which something is to occur, when the party making the affirmation knows perfectly well that no such thing is to occur.*”⁴¹³ GE’s representations about its present LNG capabilities in August and September 2014 were plainly and simply fraudulent. GE knew that it had never developed, completed, or delivered a fully modularized skids-based 0.25 MTPA LNG plant — despite over three years of trying. GE knew that it was not possible for it to construct two new trains based on the Reference Plant in 9 and 12 months. Nonetheless, it represented to Claimants that it could.
352. Besides lacking experience, GE lacked capability. As of September 2014, neither GE nor Salof had yet completed a plant like the Reference Plant. Moreover, the technology of the Reference Plant in fact belonged to Shell, not GE or Salof. This would further complicate the ability of GE to design and fabricate new trains based on the Reference Plant. Again, this was a fact that GE knew, but did not disclose to Claimants.
353. Despite its inability to deliver LNG plants on Claimants’ timeline, GE made a series of specific representations about its present capacity to build exactly the plants that Claimants needed. GE agreed with IEC that the Shell plant design needed to be revised in three ways to meet IEC’s needs: (1) it would need to accommodate Nigerian heavy gas instead of Canadian light gas; (2) it would need to accommodate the Nigerian tropical environment; and (3) it would need to accommodate Nigerian 50Hz current instead of Canadian 60Hz current. GE not only represented that it had the capacity to build plants with these specifications, but it also represented that none of these three key construction requirements would delay delivery.

⁴¹³ See *Channel Master* (CL- 12), 151 N.E.2d at 836.

354. GE knew better. Its follow-on contract with Shell included a nine-month period solely for engineering changes needed to reflect the differences between Canada and the Southeast of the United States. Yet GE promised to engineer, procure, fabricate and deliver — in the same nine months — a Train for Claimants. GE made promises it knew it could not keep in order to obtain Claimants’ business.
355. This is not a case of mere overconfidence. Mr. Lindsey confirmed this with his admissions. But those admissions merely confirm what is now obvious: GE’s sales force was desperate to add new revenue to the books of its new, small-scale LNG business. To do so, it made whatever promises were necessary to “win the sale.” Rather than disclose to Claimants its own inexperience and lack of resources — knowing that Claimants were moving forward with GE because of its supposed ability to produce high-quality plants quickly — GE moved forward with the Equipment Contract without regard for the devastating impact that its misrepresentations and deceit would have on Claimants and their business.

2. GE fraudulently represented its present capabilities with the intent to induce reliance

356. The material misrepresentations that induced Claimants to proceed with GE consisted not only of GE’s promises to complete the Trains within a year, but also GE’s detailed statements regarding its present ability both to construct LNG plants according to IEC’s requirements and its ability to construct the plants quickly enough to meet IEC’s time constraints.
357. Thus, the issue is not primarily whether GE intended to keep its contractual promise — though it knew it could not. The issue is whether its representations as to its capabilities in August and September 2014 were fraudulent. Given that Claimants had cheaper alternative options at the time GE sought to lure it away from competing manufacturers, the promise to complete the LNG plants on Claimants’ timeline was crucial. Those misrepresentations induced Claimants to contract with GE rather than with another company.
358. GE knew in August 2014 that Claimants already had alternatives in progress. In the summer of 2014, Claimants were in advanced discussions with Chinese companies,

including SASPG and enCryo, both of which had extensive experience with gas and LNG process plants. SASPG was prepared to produce and deliver the necessary liquefaction plant, and was willing to take responsibility for the BOP, for US\$ 66 million.

359. GE injected itself into Claimants' search, advising that it had the expertise to help solve Claimants' needs, and that Claimant should not use inferior Chinese technology. Most importantly, GE seized on Claimants' need for quick delivery. These pre-contract misrepresentations were made for the express purpose of inducing Claimants' reliance and causing Claimants to choose GE over its Chinese competitors. And the misrepresentations worked: to secure the trains within 9 and 12 months, and thus be ready for commercial delivery of LNG by the end of 2015, Claimants paid almost twice as much to GE as they would have needed to pay for equipment from a Chinese competitor.

3. Claimants reasonably relied on GE's knowing misrepresentations

360. *"New York authority follows a two-tier standard in assessing the duty of the party claiming fraud, according to whether the misrepresentations relate to matters peculiarly within the other party's knowledge. If so, the wronged party may rely on them without further investigation."*⁴¹⁴ *"[T]he general rule [is] that, in assessing the reasonableness of plaintiff's alleged reliance, the Court considers the entire context of the transaction, including factors such as its complexity and magnitude, the sophistication of the parties, and the content of any agreements between them."*⁴¹⁵
361. Claimants reasonably relied on GE's misrepresentations regarding its capabilities and expertise in August and September 2014. Far from its reliance being *"so utterly unreasonable, foolish or knowingly blind as to compel the conclusion that whatever injury it suffered was its own responsibility,"* Claimants' reliance was justified because GE's own

⁴¹⁴ *Merrill Lynch* (CL- 10), 500 F.3d at 181–82 (holding that the district court applied an overly strict standard of reliance to corporate buyer where buyer alleged that its officials were unaware of embezzlement by the business's CEO until after buyer acquired the business).

⁴¹⁵ *Universe Antiques, Inc. v. Vareika*, 826 F. Supp. 2d 595, 609 (S.D.N.Y. 2011) (CL- 14) (internal citation, alteration, and quotation marks omitted) (determining that party's reliance on representation was reasonable "in light of the entire circumstances"), *aff'd*, 510 F. App'x 74 (2d Cir. 2013).

expertise, capacity, and internal resources were matters peculiarly within GE's own knowledge.⁴¹⁶ GE never divulged its lack of expertise in and lack of success with building LNG plants, nor its lack of employees knowledgeable about constructing LNG plants, nor the fact that its own executives told the GE marketers that abiding by the agreed-upon timeline would be impossible.

362. Moreover, Claimants disclosed to GE that they were new to the LNG industry. Thus, as GE knew, they had even less reason to suspect that GE's representations — representations from a mammoth, multinational American company — were fraudulent. Throughout the discussions, Claimants reiterated that they did not know LNG process plants and were dependent upon GE's expertise.⁴¹⁷ Finally, nothing in the parties' negotiations would have reasonably caused a party in Claimants' position to suspect such blatant fraud on the part of GE. Claimants had no reason to suspect GE of fraudulent misrepresentations until years into the project.
363. *Soroof Trading Development Co. v. GE Microgen Inc.*, No. 10 CIV. 01391 LGS, 2013 WL 5827698 (S.D.N.Y. Oct. 30, 2013),⁴¹⁸ is instructive. In *Soroof*, there was evidence that the defendants, developers and marketers of fuel cells, represented to the plaintiff (a Saudi Arabian company distributing fuel cells) that the fuel cell in question was close to commercialization while defendants knew it was actually very early in the development phase.⁴¹⁹ There was also evidence that the defendants withheld material information from the plaintiff during contract negotiations, such as the fuel cell's failure to meet technical milestones and the results of independent testing.⁴²⁰ The Southern District of New York denied defendants' motion for summary judgment on plaintiff's fraudulent-inducement

⁴¹⁶ See *Merrill Lynch* (CL- 10), 500 F.3d at 182 (citing W. Page Keeton et al., PROSSER & KEETON ON THE LAW OF TORTS § 108, at 750 (5th ed. 1984)).

⁴¹⁷ Van den Broeke Witness Statement, ¶ 3.3.

⁴¹⁸ CL-15.

⁴¹⁹ *Soroof Trading* (CL-15), 2013 WL 5827698, at *2, 7.

⁴²⁰ *Soroof Trading* (CL-15), 2013 WL 5827698, at *7.

claim.⁴²¹ The court determined that there were genuine issues of material facts including: (1) what the defendants knew regarding the fuel cell's development and viability during contract negotiations; and (2) what the defendants told the plaintiff about the fuel cell's development and viability while negotiating.⁴²²

364. This case presents an even stronger example of fraudulent inducement than *Soroof*. As discussed above, GE withheld material information concerning its present capabilities during contract negotiations. Even more egregious, GE made affirmative false statements that lured Claimants away from choosing a Chinese company with extensive experience with gas and LNG process plants. Through false statements and material omissions regarding its history and success with building LNG plants and its technical abilities to meet Claimants' timeframe and geographic specifications, GE intentionally concealed its own inexperience and lack of resources to secure an opportunity to learn at IEC's expense.
365. GE may point to a boilerplate clause in the Sales Agreement as evidence that no fraudulent-inducement claim is possible regardless of how egregiously GE misled Claimants about its present ability to build the LNG plants that — almost four years later — Claimants still have not received. But New York law reasonably provides that general, boilerplate disclaimers are usually not sufficient to bar fraudulent-inducement claims.⁴²³

⁴²¹ *Soroof Trading* (CL-15), 2013 WL 5827698, at *13.

⁴²² *Soroof Trading* (CL-15), 2013 WL 5827698, at *8.

⁴²³ See *Caiola v. Citibank, N.A.*, 295 F.3d 312, 330 (2d Cir. 2002) (CL- 16) (“*A disclaimer is generally enforceable only if it tracks the substance of the alleged misrepresentation.*” (internal citation and quotation marks omitted)); *Green v. Beer*, No. 06CIV.4156(KMWJCF), 2009 WL 911015, at *9 (S.D.N.Y. Mar. 31, 2009) (CL- 17) (plaintiffs sufficiently alleged their reasonable reliance on alleged misrepresentations where they did not disclaim “*in affirmative, specific, and express terms*” that they would not rely on pre-agreement statements); *Internet Law Library, Inc. v. Southridge Capital Mgmt., LLC*, No. 01 CIV. 6600 (RLC), 2005 WL 3370542, at *4 (S.D.N.Y. Dec. 12, 2005) (CL- 18) (“*[A] disclaimer must speak directly to the matter at issue in order to preclude a claim of fraud in the inducement.*”), *aff’d sub nom. ITIS Holdings Inc. v. Southridge Capital Mgmt. LLC*, 329 F. App’x 299 (2d Cir. 2009).

366. Thus, as the Second Circuit has stated, “*the touchstone is specificity.*”⁴²⁴ “[T]o be considered sufficiently specific to bar a defense of fraudulent inducement . . . , a guarantee must contain explicit disclaimers of the particular representations that form the basis of the fraud-in-the-inducement claim.”⁴²⁵ The merger-and-disclaimer clause in the Sales Agreement is a two-sentence boilerplate clause among a number of general clauses. It does not disclaim reliance on any of GE’s many statements regarding its present capacity and experience with LNG plants. Under New York law, such a clause does not bar IEC from proving that BHGE fraudulently induced it into contract through a series of calculated misrepresentations.

4. GE’s knowing misrepresentations caused Claimants substantial damages

367. “*The measure of damages recoverable for being fraudulently induced to enter into a contract which otherwise would not have been made is indemnity for the loss suffered through that inducement.*”⁴²⁶ Damages for fraudulent inducement include all out of pocket losses Claimants have suffered as a result of being fraudulently induced to enter contract. These damages are discussed at length in Section IV below.

C. GE Committed Fraud in Misrepresenting Its Abilities During Performance of the Equipment Contract

368. Not only did GE fraudulently induce Claimants to enter into contract, but GE fraudulently represented its capacity and plans throughout performance, causing Claimants to continue their relationship with GE instead of “cutting their losses” and moving to a competent

⁴²⁴ *Manufacturers Hanover Tr. Co. v. Yanakas*, 7 F.3d 310, 316, 318 (2d Cir. 1993) (CL- 19) (fraudulent-inducement claim survived summary judgment because guarantee at issue did not disclaim reliance on representations that formed basis of fraud claim).

⁴²⁵ *Id.* at 316; *see also Sabo* (CL- 11), 3 N.Y.2d at 160, 162 (complaint stated a claim for rescission based on fraudulent inducement even though agreements stated that “[n]o verbal understanding or conditions, not herein specified, shall be binding on either party”).

⁴²⁶ *Deerfield Commc’ns Corp. v. Chesebrough-Ponds, Inc.*, 68 N.Y.2d 954, 956 (N.Y. 1986) (CL- 20) (internal citation, alteration, and quotation marks omitted).

contractor. This is a distinct fraud claim based on separate misrepresentations that GE made during GE's performance of the agreements.

369. A plaintiff may maintain a claim for fraud after inception of a contract in addition to a claim for breach of contract. “[U]nder New York law, parallel fraud and contract claims may be brought if the plaintiff (1) demonstrates a legal duty separate from the duty to perform under the contract; (2) points to a fraudulent misrepresentation that is collateral or extraneous to the contract; or (3) seeks special damages that are unrecoverable as contract damages.”⁴²⁷ Claimants can meet each of these elements.
370. GE made numerous fraudulent, post-contract representations collateral to the agreements. “Misrepresentations of present facts made post-contract formation are collateral or extraneous to the contract and are actionable in fraud.”⁴²⁸
371. Concealing or misrepresenting present facts — such as GE's capacities and progress during performance of the contract — can form the basis of a fraud claim.⁴²⁹
372. *Eagle Comtronics, Inc. v. Pico Products, Inc.*, 256 A.D.2d 1202 (N.Y. App. Div. 1998), is instructive.⁴³⁰ *Eagle Comtronics* involved a patent licensing agreement. The plaintiff alleged claims for breach of contract, fraud, unjust enrichment, and unfair competition. The court determined that plaintiff had a viable fraud claim, reasoning that “[p]laintiff does

⁴²⁷ *Merrill Lynch* (CL- 10), 500 F.3d at 183.

⁴²⁸ *Minnie Rose LLC v. Yu*, 169 F. Supp. 3d 504, 520 (S.D.N.Y. 2016) (CL- 21) (holding that post-contract misrepresentations were collateral to the contract where the contract required defendants to send plaintiff factory invoices and defendants concealed the actual costs and sent plaintiff inflated invoices).

⁴²⁹ *See Int'l Elecs., Inc. v. Media Syndication Glob., Inc.*, No. 02-CV-4274, 2002 WL 1897661, at *2 (S.D.N.Y. Aug. 17, 2002) (CL- 22) (holding that plaintiff's fraud claim was not precluded where at least some of plaintiff's injuries “flowed not from any failure by [defendant] to do what it contracted to do, but from its related but nevertheless distinct deception” whereby defendant was “misleading plaintiff into believing that [defendant] was discharging its obligations” under the contract); *Rojas v. Cigna Health & Life Ins. Co.*, No. 14-CV-6368 (KMK), 2018 WL 4759775, at *6 (S.D.N.Y. Sept. 29, 2018) (CL- 23) (holding that claims were “properly brought as claims for fraud” where plaintiffs allegedly not only violated their contractual agreement by charging for unnecessary medical services but also concealed the actual cost and type of medical test when billing the insurance companies).

⁴³⁰ CL- 24.

*not allege merely that defendant entered into the contract while misrepresenting its intent to perform as agreed . . . but alleges that, after the contract was entered into, defendant repeatedly misrepresented or concealed existing facts. The fraud cause of action thus alleges wrongful conduct and injurious consequences discrete from those underlying the breach of contract cause of action.”*⁴³¹

373. The reasoning in *Eagle Comtronics* has been widely cited.⁴³²

374. In the same way, Claimants “do[] not allege merely that [GE] entered into the contract while misrepresenting its intent to perform as agreed,” but also “allege[] that, after the contract was entered into, [GE] repeatedly misrepresented or concealed existing facts.”⁴³³

Not only did GE fraudulently induce IEC to enter into the Contracts, but GE fraudulently represented its capacity and plans throughout performance, causing Claimants not to terminate the relationship with GE and move to a different train provider. Thus, Claimants’ fraud claim based on GE’s post-contract misrepresentations establishes “*wrongful conduct and injurious consequences discrete from those underlying the breach of contract cause of action.*”⁴³⁴

375. GE’s fraudulent representations during performance of the contracts are a sufficient basis for IEC’s post-contract fraud claim.⁴³⁵ However, IEC also “*seeks special damages that are*

⁴³¹ *Eagle Comtronics* (CL- 24)., 256 A.D.2d at 1203.

⁴³² See, e.g., *U.S. Bank Nat’l Ass’n v. BFPRUI, LLC*, 230 F. Supp. 3d 253, 260–61 (S.D.N.Y. 2017) (CL- 25) (holding that plaintiffs could allege parallel claims for breach of contract and fraud where there were alleged “misrepresentations of present facts made post-contract formation” that were collateral to the loan agreements); *Kosowsky v. Willard Mountain, Inc.*, 90 A.D.3d 1127, 1129 (N.Y. App. Div. 2011) (CL- 26) (holding that conduct underlying fraud claim was “sufficiently discrete” from that underlying breach of contract claim where defendants engaged in post-contract misrepresentations regarding annual income reports and failed to disclose the existence of a licensing agreement); cf. *Insituform Techs., Inc. v. Per Aarsleff A/S*, 534 F. Supp. 2d 808, 813 & n.2 (W.D. Tenn. 2008) (CL- 27) (noting that allowing parallel claims of breach of contract and fraudulent misrepresentation “appears to follow the majority view”).

⁴³³ See *Eagle Comtronics* (CL-24), 256 A.D.2d at 1203.

⁴³⁴ See *id.*

⁴³⁵ See *Merrill Lynch* (CL- 10), 500 F.3d at 183.

unrecoverable as contract damages.”⁴³⁶ This is a second, independent basis establishing that IEC’s post-contract fraud claim is not duplicative of its breach of contract claim. As discussed in more detail in below and in the witness statement of Mr. Helsen, Claimants have suffered significant out-of-pocket damages as a direct result of GE’s fraudulent representations during performance of the contracts.⁴³⁷ Additional expenditures are expected.⁴³⁸ Damages sought for “*out-of-pocket expenditures incurred as a result of alleged tortious conduct, are distinctly tort damages.*”⁴³⁹ “*Under well-settled doctrine, damages for tortious conduct are intended to restore a party to the position occupied before commission of the fraud.*”⁴⁴⁰ “*‘Out-of-pocket’ costs incurred as a result of fraud are thus recoverable in fraud actions.*”⁴⁴¹

376. *Sofi Classic* is instructive. In *Sofi Classic*, the plaintiffs entered into an agreement with two corporations to form a joint venture for manufacturing garments in Mexico for sale in the United States. After the corporations initially failed to pay for manufactured garments, the defendants allegedly stated that the failure to pay was a “*temporary payment problem.*” Relying on these representations, plaintiffs shipped additional garments. The court held that plaintiffs’ alleged losses from manufacturing and shipping the garments were appropriate tort damages and thus were not barred.⁴⁴²

377. In addition to the above, IEC has a third, independent basis for establishing its post-contract fraud claim: GE failed to disclose material facts about its capacities and expertise. GE failed to disclose these facts despite being aware that Claimants were new to the LNG industry and that Claimants were mistakenly assuming — based on GE’s misleading representations — that GE possessed the experience and expertise to build LNG trains.

⁴³⁶ *See id.*

⁴³⁷ *See, e.g.,* Helsen Witness Statement, ¶¶ 53-55, 57, 62, 64-65, 70-72.

⁴³⁸ *See, e.g.,* Helsen Witness Statement, ¶¶ 55, 56, 62, 69.

⁴³⁹ *Sofi Classic* (CL- 13), 444 F. Supp. 2d at 247.

⁴⁴⁰ *Id.* (internal citation and quotation marks omitted).

⁴⁴¹ *Id.*

⁴⁴² *Id.* at 247.

*“New York recognizes a duty by a party to a business transaction to disclose material facts in certain circumstances, including where the party has made a partial or ambiguous statement; when the parties stand in a fiduciary or confidential relationship with each other; and where one party possesses superior knowledge, not readily available to the other, and knows that the other is acting on the basis of mistaken knowledge.”*⁴⁴³

378. GE possessed superior knowledge as to its capacities, expertise, and experience — knowledge not readily available to Claimants. Throughout contract negotiations (and post-contract discussions), Claimants reiterated that they did not know LNG process plants and were dependent on GE’s expertise. Claimants had no reason to suspect that GE was intentionally concealing its own lack of capacity and experience to keep Claimants from terminating the relationship and moving to a different contractor. Thus, Claimants have a third, independent basis for establishing a fraud claim based on GE’s post-contract misrepresentations.
379. This case is like *Kajima International, Inc. v. Formosa Plastics Corp., USA*, 15 S.W.3d 289 (Tex. App.— Corpus Christi 2000, pet. denied).⁴⁴⁴ In *Kajima*, the plaintiff (an industrial construction company) submitted bids for work on the defendant’s expansion plant project. The plaintiff alleged that it incurred additional expenses because of delays caused by the defendant. In addition to alleging fraudulent inducement into the contracts, the plaintiff alleged that, after execution of the contracts, the defendant provided it with a false schedule of performance concerning one of the plants and made repeated post-contract promises to induce the plaintiff into continuing its performance. The court concluded that the trial court abused its discretion by precluding the jury from considering the defendant’s post-contract fraud.⁴⁴⁵

⁴⁴³ *Id.* at 244 (citing *Brass v. Am. Film Techs., Inc.*, 987 F.2d 142, 150 (2d Cir. 1993) (CL- 28)); see also *Brass* (CL- 28), 987 F.2d at 151 (noting “a tendency in New York to apply the rule of ‘superior knowledge’ in an array of contexts in which silence would at one time have escaped criticism”).

⁴⁴⁴ CL-29.

⁴⁴⁵ *Kajima International* (CL- 29), 15 S.W.3d at 294.

380. Here, Claimants have incurred significant damages because of GE's almost four-year delay. Claimants could have mitigated much of these losses by terminating the relationship years ago and choosing a different contractor if GE had not fraudulently induced them into continuing under the Contracts through repeated false promises about its capacity and plans.
381. Nor would holding GE liable for its post-contract fraud be exceptional. “[S]ubsequent assurances of performance” can be a sufficient basis for a claim of post-contract fraud.⁴⁴⁶
382. “A claim for fraudulent misrepresentation under New York law requires a plaintiff show (1) the defendant made a material false representation, (2) the defendant intended to defraud the plaintiff thereby, (3) the plaintiff reasonably relied upon the representation, and (4) the plaintiff suffered damage as a result of such reliance.”⁴⁴⁷ “Plaintiffs may assert a strong inference of fraudulent intent by alleging facts that either (1) show that the defendant had both the ‘motive and opportunity’ to commit the alleged fraud, or (2) ‘constitute strong circumstantial evidence of conscious misbehavior or recklessness.’”⁴⁴⁸ The requirement that fraud be pleaded with particularity “is not to be interpreted so strictly as to prevent an otherwise valid cause of action in situations where it may be impossible to state in detail the circumstances constituting a fraud.”⁴⁴⁹

⁴⁴⁶ *Space, Inc. v. Simowitz*, No. 08 CIV. 2854 (SAS), 2008 WL 2676359, at *3 (S.D.N.Y. July 8, 2008) (CL-30); see, e.g., *UMG Recordings, Inc. v. Glob. Eagle Entm’t, Inc.*, No. CV143466MMMJPX, 2015 WL 12746208, at *15 (C.D. Cal. Oct. 30, 2015) (CL-31) (“Courts have likewise viewed ‘continued assurances’ in the face of non-performance as raising an inference of fraud.”); *Nat’l Ctr. for Policy Analysis v. Fiscal Assocs., Inc.*, No. CIV.A.3:97CV2660L, 2002 WL 433038, at *6 (N.D. Tex. Mar. 15, 2002) (CL-32) (denying summary judgment on fraud claim where a reasonable jury could find that “Defendants fraudulently induced Plaintiff to continue its relationship . . . rather than sue for breach or explore options with other economic consulting firms”).

⁴⁴⁷ *Minnie Rose* (CL- 21), 169 F. Supp. 3d at 516 (internal citations and quotation marks omitted).

⁴⁴⁸ *Id.* at 511–12 (quoting *Lerner v. Fleet Bank, N.A.*, 459 F.3d 273, 290–91 (2d Cir. 2006)).

⁴⁴⁹ *Lanzi v. Brooks*, 373 N.E.2d 278, 279 (N.Y. 1977) (CL- 33) (internal citation and quotation marks omitted).

IV. CLAIMANTS ARE ENTITLED TO RECOVER DIRECT AND CONSEQUENTIAL DAMAGES

383. GE's misconduct in this action — which constitutes willful misconduct, gross negligence and fraud — supports a broad range of damages. Outlined below are the damages to which Claimants are entitled under New York law.

A. Claimants Are Entitled To Recover All Direct and Consequential Damages — Including Lost Profits — Suffered as a Result of GE's Willful Misconduct and Gross Negligence

384. A party that proves breach of contract may generally recover (1) direct (or general) damages, which “*compensate for the value of the promised performance*” and (2) consequential damages, which “*are indirect and compensate for additional losses incurred as a result of the breach, such as lost profits . . .*”⁴⁵⁰

385. Under New York law, while parties may enter contracts that absolve themselves of their own negligence, as a matter of public policy, a party may not insulate itself from damages caused by its own grossly negligent or willful conduct.⁴⁵¹ “*This applies equally to contract clauses purporting to exonerate a party from liability and clauses limiting damages to a nominal sum.*”⁴⁵² Therefore, limitations or caps on damages are not enforceable when the alleged damages arise from the gross negligence or willful misconduct of the opposing party.⁴⁵³

⁴⁵⁰ See *Appliance Giant, Inc. v. Columbia 90 Assocs., LLC*, 8 A.D.3d 932, 934 (N.Y. App. Div. 2004) (CL- 34); see also *Sager v. Friedman*, 270 N.Y. 472, 481 (N.Y. 1936) (CL- 35) (“*The measure of damages which flows from a breach of contract is the difference between the value of what has been received under the contract and the value of what would have been received if the contract had been performed according to its terms. . . . That loss may include the profits which he would have derived from performance of the contract.*”).

⁴⁵¹ *Sommer v. Fed. Signal Corp.*, 79 N.Y.2d 540, 553–54 (N.Y. 1992) (CL- 36).

⁴⁵² *Id.* at 554.

⁴⁵³ *Id.*; see also *Kalisch–Jarcho* (CL- 7), 58 N.Y.2d at 384–85 (“*[A]n exculpatory agreement, no matter how flat and unqualified its terms, will not exonerate a party from liability under all circumstances. Under announced public policy, it will not apply to exemption of willful or grossly negligent acts.*”); *Gross v. Sweet*, 49 N.Y.2d 102, 106 (N.Y. 1979) (CL- 37) (“*To the extent that agreements purport to*

386. “[A]ll that is required for ‘gross negligence’ under New York law” is that the breaching party’s conduct “smack[] of intentional wrongdoing” or show “a reckless indifference to the rights of others.”⁴⁵⁴ A party may not define “gross negligence” or “willful misconduct” in their contracts more narrowly to avoid this public policy.⁴⁵⁵ Nor is the public-policy exception limited to cases “where the breaching party acts primarily to hurt its counterpart, rather than to help itself.”⁴⁵⁶ Indeed, “that is rarely how sophisticated parties conduct themselves.”⁴⁵⁷ Thus, economic self-interest does not “ipso facto absolve[] a party from the consequences of its intentional breach.”⁴⁵⁸
387. Courts applying New York law consider a variety of factors to determine whether a breaching party’s conduct “smacks of intentional wrongdoing” or shows reckless indifference. For example, in *Apache Bohai Corp., LDC v. Texaco China B.V.*, No. H-01-2019, 2005 WL 6112664 (S.D. Tex. Feb. 28, 2005), *aff’d*, 480 F.3d 397 (5th Cir. 2007),⁴⁵⁹ the court determined that the arbitrator correctly applied New York law in voiding a contractual limitation on liability. This was so even though the party repudiating the contract (Apache) argued that the parties “contracted for a broad limitation on consequential damages and the arbitrator should have honored it.”⁴⁶⁰ The court agreed with the arbitrator, stating that “it was not necessary for the arbitrator to find malice or bad faith before invalidating such clauses.”⁴⁶¹ Moreover, the court determined that the

grant exemption for liability for willful or grossly negligent acts they have been viewed as wholly void.”).

⁴⁵⁴ *Deutsche Bank Nat’l Tr. Co. for Morgan Stanley Structured Tr. I 2007-1 v. Morgan Stanley Mortg. Capital Holdings LLC*, 289 F. Supp. 3d 484, 500 (S.D.N.Y. 2018) (CL- 38); *Kalisch-Jarcho* (CL- 7), 58 N.Y.2d at 385.

⁴⁵⁵ See *Sommer* (CL- 36), 79 N.Y.2d at 554 n.3 (“[P]ublic policy precludes enforcement of contract clauses exonerating a party from its reckless indifference to the rights of others, whether or not termed ‘gross negligence.’”).

⁴⁵⁶ *Deutsche Bank* (CL- 38), 289 F. Supp. 3d at 500.

⁴⁵⁷ *Id.*

⁴⁵⁸ *Id.*

⁴⁵⁹ CL-39.

⁴⁶⁰ *Id.* at *20.

⁴⁶¹ *Id.*

arbitrator's finding of reckless indifference was "*well-supported*" by Apache's (1) abrupt notice of its withdrawal (only weeks from a critical deadline); (2) immediate disassembly of its team; (3) complete abdication of its performance responsibilities; and (4) total disregard for the difficult position in which it left the other contracting party.⁴⁶²

388. "*Even assuming no bad faith, there are circumstances in which a party's conduct from the outset . . . eliminates the chance for adequate performance.*"⁴⁶³ Such conduct "*could well constitute gross negligence.*"⁴⁶⁴ *Soroof Trading Development Co. v. GE Fuel Cell Systems, LLC*, 842 F. Supp. 2d 502 (S.D.N.Y. 2012),⁴⁶⁵ the underlying facts of which are described above in its companion case, is instructive on this point as well. The contract at issue in *Soroof* included a limitation on liability and an exclusion of consequential damages, including lost profits. However, the court emphasized the public-policy exception to limitations of liability and concluded that the evidence suggested that one of the defendants, GE Fuel Cell Systems, LLC, had acted with gross negligence or willful misconduct.⁴⁶⁶ The evidence suggested that GE Fuel Cell Systems knew that it "*could not build a product that would meet the contractual specifications,*" and that it withheld this information for four years.⁴⁶⁷ Moreover, the evidence suggested that GE Fuel Cell Systems affirmatively deceived the Saudi Arabian company "*by indicating repeatedly that a contractually adequate product would soon be ready for distribution.*"⁴⁶⁸ The Southern District of New York later found genuine issues of material fact regarding the defendants' gross negligence and willful misconduct and therefore denied the defendants' summary-judgment motion.⁴⁶⁹

⁴⁶² *Id.* at *20 n.36.

⁴⁶³ *Deutsche Bank* (CL- 38), 289 F. Supp. 3d at 500.

⁴⁶⁴ *Id.*

⁴⁶⁵ CL-40.

⁴⁶⁶ *Soroof Trading* (CL- 40), 842 F. Supp. 2d at 516.

⁴⁶⁷ *Id.*

⁴⁶⁸ *Id.*

⁴⁶⁹ *Soroof Trading Dev. Co.* (CL- 15), 2013 WL 5827698, at *1, *11–12.

389. Just like the GE subsidiary in *Soroof Trading*, GE knowingly embarked on a course of conduct from September 2014 that made adequate performance of its obligations impossible. GE knew that it could not deliver two fully modularized skids-based LNG trains that would “*meet the contractual specifications*” on the contractually specified timeframe of nine and twelve months, yet concealed that information from Claimants.⁴⁷⁰ GE then exacerbated the consequences of its misconduct “*by indicating repeatedly that a contractually adequate product would soon be ready.*”⁴⁷¹ Thus, GE not only breached the agreements but also deceived Claimants into entering them. In addition, through its repeated misrepresentations, GE prevented Claimants from terminating the relationship and moving to a different provider.

390. But GE’s willful misconduct and gross negligence in this case is not limited to its fraudulent misrepresentations. It extends as well to the vast array of design and delivery defects that have marred its conduct. As detailed above, these defects reflect GE’s indifference to the timing and quality of its attempts at performance and further require that the limitations of liability be disregarded.

B. Claimants Are Entitled to Recover Their Full Loss As A Result of GE’s Misconduct

391. Special, or consequential damages, are recoverable for breach of contract based on the foreseeable income the contract could produce.⁴⁷² “*It is not necessary for the breaching party to have foreseen the breach itself or the particular way the loss occurred, rather, it is only necessary that loss from a breach is foreseeable and probable.*”⁴⁷³ Thus, “*the party breaching the contract is liable for those risks foreseen or which should have been foreseen*

⁴⁷⁰ See *Soroof* (CL- 40), 842 F. Supp. 2d at 516.

⁴⁷¹ See *id.*

⁴⁷² *Am. List Corp. v. U.S. News & World Report, Inc.*, 75 N.Y.2d 38, 42–43 (N.Y. 1989) (CL- 41).

⁴⁷³ *Bi-Econ. Mkt., Inc. v. Harleysville Ins. Co. of New York*, 886 N.E.2d 127, 130, 132 (N.Y. 2008) (CL- 42) (internal citations, alterations, and quotation marks omitted) (holding that party’s claim for consequential damages, including the demise of its business, was reasonably foreseeable and contemplated by the parties).

*at the time the contract was made.”*⁴⁷⁴ To determine the reasonably contemplated consequential damages, New York courts assess “*the nature, purpose and particular circumstances of the contract known by the parties as well as what liability the defendant fairly may be supposed to have assumed consciously, or to have warranted the plaintiff reasonably to suppose that it assumed, when the contract was made.*”⁴⁷⁵

392. As a result of GE’s gross negligence and willful misconduct, Claimants are entitled to recover all direct and consequential damages, including lost profits.⁴⁷⁶
393. Claimants’ lost profits in this case were foreseeable to all involved in this project. The market for LNG in Nigeria and West Africa is immense. Throughout the region, customers struggle with a lack of access to reliable electricity grids, inconsistent gas supply and/or high diesel costs. The Claimants’ project offers a consistent, high-quality cost-effective solution for all industries that need power. Indeed, Claimants’ LNG price is projected to be 40 to 50 percent less than the cost of diesel for an equivalent amount of energy, making

⁴⁷⁴ *Id.* at 130 (internal citation and quotation marks omitted).

⁴⁷⁵ *Id.* (internal citations and quotation marks omitted).

⁴⁷⁶ *See Apache* (CL- 39), 2005 WL 6112664, at *6, *11, *23 (voiding liability limitation because of reckless indifference and upholding arbitrator’s awards of direct damages for failure to drill wells and consequential damages for lost right to future production profits); *Food Pageant, Inc. v. Consol. Edison Co.*, 429 N.E.2d 738, 739–41 (N.Y. 1981) (CL- 43) (affirming that awarding plaintiff damages for lost business is appropriate when the loss is caused by defendant’s gross negligence, and thus awarding plaintiff damages for lost business) Notably, under New York law, “[l]ost profits may be either general or consequential damages, depending on whether the non-breaching party bargained for such profits and they are the direct and immediate fruits of the contract.” *Biotronik A.G. v. Conor Medsystems Ireland, Ltd.*, 11 N.E.3d 676, 680 (N.Y. 2014) (CL- 44) (internal citations and quotation marks omitted) (holding that lost profits sought by distributor constituted general damages that were recoverable under liability-limiting provision of parties’ agreement). Direct damages can include net profits from sales, as where a contract “contemplate[s] building up a business for the sale of the seller’s [product] and creating a demand for that particular [product].” *Id.* (quoting *Orester v. Dayton Rubber Mfg. Co.*, 228 N.Y. 134, 138 (N.Y. 1920)). Thus, New York courts “have recognized [lost] profits as general damages where the nature of the agreement supported a conclusion that they flowed directly from the breach.” *Id.* Here, GE and Claimants clearly recognized that Claimants’ objective in acquiring the LNG plants was the production and sale of LNG, and the anticipated profits. Under such circumstances, Claimants’ lost profits can be fairly characterized as general damages. In any event, GE’s willful misconduct and gross negligence renders them recoverable irrespective of how they are characterized.

LNG an undeniably sound product. For that reason, GE itself explored forming a joint venture with Claimants to develop similar LNG plants throughout the region.⁴⁷⁷

394. Nor are the profits lost in connection with GE's misconduct speculative. As detailed in the witness statement of Ritu Sahajwalla, Greenville's managing director, the "*response from customers [to Greenville's marketing efforts] has been strong.*"⁴⁷⁸ From power projects to industrial customers, Greenville has executed letters of intent with more than 160 customers. Even without the projected offtake of the Kaduna power plant, these customers have expressed willingness to take more LNG than Claimants could produce. This market would have been available in 2016 if only GE had made good on its commitments. As a result of GE's willful misconduct and gross negligence, Claimants have lost ability to start their business as planned and profit from it.
395. Carlos Lapuerta, a well-respected economist and expert on damages, has developed a sophisticated cash flow model that measures what Claimants are expected to earn today and what Claimants would have earned "but for" GE's breaches. As detailed in Mr. Lapuerta's report, Claimants have suffered US\$ 591 million in damages from GE's misconduct.⁴⁷⁹ Mr. Lapuerta's model is conservative. His analysis is rooted in independent analysis of the market, the pricing inputs, inflationary impacts, and exchange rates. His analysis is also consistent with the cash flow models that Claimants have been using to support their investments since before they contracted with GE. The models on which Mr. Lapuerta started his analysis were not created for the purposes of this arbitration: they have been the foundation for IEC's investment of more than US\$500 million in capital since 2014. They are also the reason that IEC elected to spend almost 2x as much for GE plants so that they could be in place six to nine months earlier than plants procured from GE's competitors.

⁴⁷⁷ Sahajwalla Witness Statement, ¶ 22.

⁴⁷⁸ Sahajwalla Witness Statement ¶ 15 & Appendix A.

⁴⁷⁹ Lapuerta Expert Report, ¶ 16 & *passim*.

C. Claimants Are Entitled To Recover Direct Damages Under the Sales and Services Agreements for GEOG's Multiple Breaches of the Agreements

396. In for any reason the Tribunal does not award the damages recognized in Mr. Lapuerta's report Claimants are entitled to recover direct damages. *"It is well settled that in breach of contract actions the nonbreaching party may recover general damages which are the natural and probable consequence of the breach."*⁴⁸⁰ Moreover, Clause 6.6 of the Sales Agreement expressly provides that Claimants can recover all direct damages suffered due to delay after the 5 percent cap is reached. Accordingly, Claimants are entitled to recover "any direct damages" suffered after the Delay Limit Date (*i.e.*, after November 11, 2015 and February 11, 2016).
397. Based on calculations of Mr. Helsen, the direct damages incurred by Claimants will exceed US\$ 200 million.⁴⁸¹ In the sections that follow, we review the direct damages to which Claimants are entitled as a result of GE's misconduct. Importantly, the damages continue to accrue with time, and Claimants reserve the right to supplement this demand.

1. Direct CAPEX Damages

398. Procurement of Gas Cleaning Equipment. As Mr. Lumley has explained, neither the Trains purchased by Claimants nor the Trains ultimately delivered by GE are capable of processing the gas specified in the contract at all, or up to the guaranteed 765 TPD, respectively. One of the ways that Claimants have mitigated that design defect — as recommended by GE — is through the procurement and installation of fractionation columns. As detailed in Mr. Helsen's witness statement, the total cost of this expenditure has been US\$19,811,753.66, and includes the cost of purchasing a gas cleaning system from CryoSys (\$12.07 million), and the expenses incurred to install that system (\$7.73 million).⁴⁸²

⁴⁸⁰ *Bi-Econ. Mkt.* (CL- 42), 886 N.E.2d at 130 (internal citation and quotation marks omitted).

⁴⁸¹ Helsen Witness Statement, ¶ 50.

⁴⁸² Helsen Witness Statement, ¶¶ 53-54.

399. Other Consulting and Engineering Costs. As GE's engineering problems have continued to mount throughout this project, Claimants have incurred, and continue to incur, significant engineering consulting costs. These expenses — itemized in Mr. Helsen's witness statement as of 28 February 2019 — are all direct damages incurred as a result of GE's willful misconduct and gross negligence. The total damage so far is US\$ 2,660,037.96.⁴⁸³
400. Investment in VFDs. To start trains 1 and 2, it will be necessary to purchase variable frequency drives. That cost must be borne by GE. The VFDs have not yet been purchased, but the cost is expected to be approximately US\$ 3 million.⁴⁸⁴ This information will be updated as events develop.
401. Loss of Auxiliary Products and Containers in the Drying Process. Claimants have wasted US\$ 859,809.13 on nitrogen and chemical storage products because of (i) GE's improperly long-last drying process, and (ii) the fact Trains 1 and 2 have now been dried but will have to be dried again when the VFDs arrive.⁴⁸⁵ This expense is a direct result of GE's misconduct.
402. Loss of Useful Equipment Life. As explained in Mr. Helsen's witness statement, Claimants incurred capital expenses to procure equipment such as LNG delivery trucks and trailers, LNG storage tanks and regasification equipment for use at customer sites, and the plants themselves. Because of GE's delays, however, that equipment has sat idle. As a result, otherwise useful life of the equipment has been wasted. Mr. Helsen has calculated the value of that loss: US\$ 53,689,812.14 for loss of useful life of the GE trains, and US\$ 12,412,682.46 for the loss of useful life of logistical and customer equipment.⁴⁸⁶

⁴⁸³ Helsen Witness Statement, ¶ 55.

⁴⁸⁴ Helsen Witness Statement, ¶ 56.

⁴⁸⁵ Helsen Witness Statement, ¶¶ 57-58.

⁴⁸⁶ Helsen Witness Statement, ¶¶ 59-61.

403. Additional Investments Remediating Plants. Claimants reserve the right to claim for the additional costs that they have and will incur repairing, reconditioning and otherwise remediating the issues with Trains 1 and 2. The damage resulting from these issues remains to be determined.

2. Direct OPEX Damages

404. Wasted Operational Expenses. Among the direct damages for delay that Claimants have incurred are operational expenses that should have been offset by positive cashflow beginning January 2016. As explained by Mr. Helsen, Claimants have incurred US\$53,864,187.59 in wasted operating expenses.⁴⁸⁷ Notably, Mr. Helsen omitted from this figure production and operating costs that would have been incurred for operations but were saved because commercial operations had not started.
405. Loss of Financial Income During the Delay. IEC has invested funds in this project with expectation of return based on GE's promises. Had they not done so, the US\$500 million invested (or held in cash to be ready for investment) would have earned a return. At a conservative rate of US Libor over 1 year, the loss to IEC is US\$33,954,562.62.⁴⁸⁸
406. Expenditures Relating to Gas. Greenville executed a Gas Sale and Aggregation Agreement ("GSAA") with the NNPC/TEPNG Joint Venture in September 2017.⁴⁸⁹ To date, Claimants have been able to avoid take or pay feed gas obligations through negotiation. However, NNPC/TEPNG are pressing for commercial accommodations to be made in light of the fact that the Rumuji plant is not yet ready to take the volumes of gas to which Greenville committed in reliance on GE delivering the trains.⁴⁹⁰ To the extent that Claimants have to pay for gas volumes that they are not able to use, or otherwise suffer

⁴⁸⁷ Helsen Witness Statement, ¶¶ 64-66.

⁴⁸⁸ Helsen Witness Statement, ¶¶ 67-68.

⁴⁸⁹ Exhibit C-312.

⁴⁹⁰ Sahajwalla Witness Statement, ¶¶ 25-26; Exhibits C-314, C-315, and C-316.

loss relating to the GSAA due to GE's breaches and tortious acts, including legal expenses, such losses are recoverable as damage in this arbitration.

407. Loss of Warranty Value. Not only has the equipment procured by Claimants lost useful life as a result of the delays, it has also lost warranty value. To calculate the value of the lost warranties, Claimants' determined the relevant warranty period for each piece of equipment and whether that period had expired. Claimants then considered the standard repair and spare part costs during operation of the equipment in question during the warranty period. Because the warranty periods are now expired, those repair and replacement costs must now be borne by Claimants. The value of the lost warranty is thus US\$17,639.347.26.⁴⁹¹

D. In the Alternative, IEC and Greenville Seek Damages on Their Fraudulent-Inducement and Post-Contract Fraud Claims

408. The Tribunal can and should make Claimants whole by awarding the direct and consequential damages outlined above for breach of contract. As an alternative to contract damages, however, GE's fraudulent inducement of IEC to enter into the Equipment and Services Contracts allows the Tribunal to award damages for fraud.
409. *"A person who has parted with consideration upon a contract induced by fraud has three remedies open to him. He may rescind the contract absolutely and sue in an action at law to recover the consideration parted with upon the fraudulent contract. . . . He may bring an action in equity to rescind the contract and in that action have full relief. . . . Lastly, he may retain what he has received and bring an action at law to recover the damages sustained."*⁴⁹²

⁴⁹¹ Helsen Witness Statement, ¶¶ 70-72.

⁴⁹² *Monarch Nut Co., LLC v. Goodnature Prod., Inc.*, No. 14-CV-1017S, 2019 WL 441591, at *4 (W.D.N.Y. Feb. 5, 2019) (CL- 45) (*quoting Sager*, 1 N.E.2d at 973) (ellipses in original).

410. Here, Claimants are not electing to proceed in equity, as it remains their position that money damages equal to the direct and consequential damages can make them whole.⁴⁹³ But the legal option to “recover the damages sustained” because of the fraud is available here if the Tribunal concludes that full direct and consequential damages should not be made for breach of contract.⁴⁹⁴
411. With respect to “*an action at law to recover the damages sustained*,” New York law provides that “[t]he measure of damages recoverable for being fraudulently induced to enter into a contract which otherwise would not have been made is indemnity for the loss suffered through that inducement.”⁴⁹⁵ Out of pocket damages include “*the difference between the value of the received consideration and the value of the consideration given*.”⁴⁹⁶
412. Based on New York’s rule for calculating out of pocket losses, the Tribunal can award IEC the difference between the value that it has paid to GE (\$70 million) and the value of the consideration provided by GE in exchange (\$0). GE contracted to deliver two, fully modularized skids-based LNG trains in nine and twelve months. Almost four years later, IEC and Greenville have received neither. The trains are non-functional. As such, IEC has received no value in exchange for the consideration it gave — US\$70 million. Thus,

⁴⁹³ Cf. *Rudman v. Cowles Commc’ns, Inc.*, 30 N.Y.2d 1, 13 (N.Y. 1972) (CL- 46) (stating that “the equitable remedy [of rescission] is to be invoked only when there is lacking complete and adequate remedy at law and where the *status quo* may be substantially restored”).

⁴⁹⁴ See *Monarch Nut Co.* (CL- 45), 2019 WL 441591, at *4.

⁴⁹⁵ *Deerfield Commc’ns* (CL-20), 68 N.Y.2d at 956 (internal citation and quotation marks omitted) (recognizing “*the costs to locate the goods, the costs to repurchase the goods, storage fees and disposal costs*” as proper damages in a fraudulent-inducement claim); see *Sofi Classic* (CL-13), 444 F. Supp. 2d at 247 (holding that plaintiffs’ claims were not barred where they alleged “*costs in excess of \$2 million in the manufacture and shipment of garments*” because of fraudulent inducement into contract). “*Out-of-pocket costs incurred as a result of fraud are thus recoverable in fraud actions.*” *Sofi Classic* (CL-13), 444 F. Supp. 2d at 247.

⁴⁹⁶ *Monarch Nut Co.* (CL- 45), 2019 WL 441591, at *5 (internal citation omitted). Moreover, “*some types of financial injuries, including out-of-pocket costs, conceivably may qualify as both tort and contract damages under appropriate circumstances.*” *Sofi Classic* (CL-13), 444 F. Supp. 2d at 247.

IEC is entitled to recover this full US\$70 million as “*the difference between the value of the received consideration and the value of the consideration given*” (which was zero).⁴⁹⁷

413. In addition, IEC is entitled to recover all other out of pocket losses incurred because of the fraud. *See Deerfield Commc’ns*, 68 N.Y.2d at 956. Awarding Claimants the full value of the direct and consequential damages is the only way to make them whole. But under New York law, all out of pocket expenses incurred by Claimants, including the costs associated with purchasing and installing additional equipment, the costs of external consultants, and the loss of useful life on the plants and other equipment can be recovered as fraud damages. These amount today total at least US\$ 88,000,000 today, and are only expected to grow. Together with the US\$ 70 million that represents the amount of consideration Claimants were fraudulently induced to part with, Claimants are entitled to approximately US\$ 158,000,000 in damages for fraud.

E. Claimants Are Entitled to Liquidated Damages for Delay

414. Clause 6.5 of the Sales Agreement provides for liquidated damages of 0.5 percent of the Contract Price (\$212,500) for each Week of delay, up to 5 percent of the Contract Price (*i.e.* US\$2.125 million per train).
415. Trains 1 and 2 were due to be delivered on June 24, 2015 and September 24, 2015 respectively. The Delay Limit Date – the date on which the liquidated damages reached the 5 percent price threshold — was reached for Trains 1 and 2 on November 11, 2015 and February 11, 2016 respectively.
416. To date, Trains 1 and 2 have still not been delivered in accordance with the Sales Agreement. Contrary to GE’s unsubstantiated protests, the delay is attributable to GE’s late, piecemeal deliveries, poor quality, and late design and fabrication.⁴⁹⁸ Accordingly, GE is obligated to pay US\$4.25 million in liquidated damages under Clause 6.5.

⁴⁹⁷ *See Monarch Nut Co.* (CL- 45), 2019 WL 441591, at *5.

⁴⁹⁸ *See, e.g., Lancaster Expert Report*, Section 2.6.

V. GE's COUNTERCLAIMS MUST BE REJECTED

417. As detailed in the factual recitation above and the Claimants' witness statements and expert reports, it is not snakes or local violence that have derailed this project, but the unremitting failure of GE to design, manufacture and dispatch Trains 1 and 2 in accordance with the required schedule and specifications.
418. GE's counterclaim is an attempt to distract from its own failures. GE's Statement of Counterclaim is 62 pages long. All but 12 pages (pages 48 to 60) of it are an anticipatory defense to Claimants' claims. Those 12 pages purport to support 27 different alleged claims. Perhaps GE required only 12 pages because the claims rest on little more than GE's original June 2018 claim letter, which itself was *ipse dixit* without substantiation.⁴⁹⁹ Even the expert reports that GE submits are based largely on assumption and unsupported assertion.
419. GE's counterclaim is tactical, and nothing more. Indeed, in a phone call in the weeks leading up to this submission, GE's Mesgina Risat called Eddy Van den Broeke, sympathized with Claimants' position and admitted the difficulty of GE's position.⁵⁰⁰ GE's counterclaims must be rejected for what they are – a futile, last minute attempt to create a negotiating position and to distract this Tribunal from GE's own failings.
420. Section A, below, reviews the contractual provisions barring the counterclaims. Sections B and C, below, review the particulars of GE's claims under the Equipment Contract and the Services Contract, respectively. Sections D, E, and F then address GE's claims for

⁴⁹⁹ See Lancaster Expert Report, Sections 2.5.4, 7.5 (rejecting alleged delays asserted by Respondents); Wills Expert Report, *passim* (rejecting quantum presentation presented by Respondents). Mr. Wills explains: "*In my opinion the absence of GE providing such fundamental substantiation to support its claims for more than USD25 million (notwithstanding any entitlement issues) would be rejected by even the most junior of contract administrators on any international oil and gas project that I have been involved with.*" Wills Expert Report, ¶ 56.

⁵⁰⁰ Van den Broeke Witness Statement, ¶ 1.11.

costs in connections with the judicial proceedings in New York, claims for alleged breaches of confidentiality obligations, and claim for security for costs.

A. The Claims Process Under the Contracts

421. The Contracts include very specific provisions governing change requests. GE's failure to present requests for change orders for much of its alleged additional performance precludes it from pursuing such alleged claims now. Claimants' refusal of requests that were made equally preclude GE from nonetheless unilaterally deciding to implement them and be paid. For this reason, alone, the counterclaims fail.
422. Clause 2 of the Equipment Contract states that any request by IEC that impacts the Contract Price or the Delivery Date is subject to Clause 24 and that the request "*shall not relieve Seller from its responsibility for delivering the Plant in accordance with the Agreement.*" Clause 24.1 states that either party is entitled "*to request Changes,*" but Clause 24.2 ordains that "*if Buyer and Seller are unable to agree on the Proposal for Change Order, Buyer shall have the right to refuse to issue the Change Order*" and that "*No change shall be made by Seller without a Change Order from Buyer.*"⁵⁰¹ GE is not entitled to deviate from the Contract, or to demand any additional compensation or time for any performance that it undertakes, without an agreed Change Order.
423. Clause 25 of the Services Contract likewise provides that alterations to the Services under that contract may be requested, but GE Nigeria was not obligated to perform any altered scope of work unless both parties agreed in writing. Moreover, any request by Claimants that GE Nigeria provide service personnel hours in addition to those specified in the agreement was required to be in writing.⁵⁰²
424. New York courts strictly enforce change-order requirements in construction contracts.⁵⁰³

⁵⁰¹ Exhibit C-1, Clauses 24.1 & 24.2 (emphasis added).

⁵⁰² Exhibit C-2, Clause 5.2(ii).

⁵⁰³ See, e.g., *Indus. Window Corp. v. Fed. Ins. Co.*, 609 F. Supp. 2d 329, 343 (S.D.N.Y. 2009) (CL- 47) ("*It is well-established that a failure to comply with provisions requiring written documentation of*

425. GE has identified no Request for Change Order, much less a Change Order approved by Claimants, to support any of its counterclaims. That alone is dispositive of the Counterclaims. As Clause 24.1 of the Equipment Contract makes clear, “*Seller shall within a reasonable time after having received a Buyer Change ... remit a proposal.*”⁵⁰⁴ This requirement — for a specific disclosure of the cost and time impact of any potential change — exists to protect Claimants from precisely this sort of “do work first, demand payment later” tactic that GE purports to pursue here.
426. The wisdom of New York law — and the Contracts — is evidenced by this case. GE has presented massive claims for work supposedly done at Claimants’ request. Claimants deny that this work was for anything other than fulfilling GE’s existing obligations under the Contracts to deliver two, fully-modularized and defect-free Trains.⁵⁰⁵ But equally important, GE never provided Claimants with a proposal, setting out the time and cost implications, for most of this supposed out-of-scope work, and never received Claimants’ agreement to pay for any of it. Such a contemporaneous proposal and acceptance is an essential predicate for the claims GE now asserts. To make things even worse, GE has still

‘extra work’ can preclude a contractor from recovering for such work”); *F. Garofalo Elec. Co. v. New York Univ.*, 754 N.Y.S.2d 227, 231 (N.Y. App. Div. 2002) (CL- 48) (claim for money allegedly owed for extra-contractual work and materials failed because contractor did not provide contractually required documentation for extra work); *De Foe Corp. v. City of New York*, 95 A.D.2d 793, 794 (N.Y. App. Div. 1983) (CL-49) (“*Plaintiff’s undisputed failure to supply [contractually required] records*” that were “*intended to allow defendant to verify not only the cost of the work but also what work was actually performed*” constituted “*a waiver of his right to seek compensation.*”); see also New York Construction Law Manual, 33 N.Y. Prac. § 6:8 (2d ed.) (CL- 50) (“*A failure to follow contract requirements regarding extra work is, in effect, a waiver of a claim for compensation for that work.*”).

⁵⁰⁴ Supply and construction contracts, especially in process engineering, often contain express entitlement for the additional cost of preparing proposed variations and responding to employers’ proposals, in recognition of the cost to contractors of this activity. See IChemE (Institute of Chemical Engineers) International Red Book 2007 at cl. 16.8. This is the most well-known published form for process engineering projects. Also the NEC/4 (New Engineering Contract) list of Compensation Events at clause 63 includes cost allowances for providing quotations for proposed variations. No such language is found in the Equipment Contract.

⁵⁰⁵ See generally Srinivasan Witness Statement, *passim*; Pirijs Witness Statement, *passim*.

failed to document its alleged time and cost attributable to Claimants' alleged changes in any credible manner.⁵⁰⁶

B. Each of GE's Particular Claims Under the Equipment Contract Fails

1. Payment for Mechanical Completion of Train 1

427. GE seeks payment of US\$ 4,750,000 for the alleged Mechanical Completion of Train 1.⁵⁰⁷ Train 1, however, is not "Mechanically Complete."

428. The Equipment Contract defines mechanical completion: "*Mechanical Completion means that a Plant has been mechanically, electrically and structurally installed on Site and connected, in accordance with the Technical Documentation, but excluding ... (ii) any minor items which do not materially affect the operation or safety of the Plant*"⁵⁰⁸ This definition has not been met.

429. Among other things, Train 1 is not mechanically complete because (i) the cables to the MR Compressor ("MRC") motors overheat and "*are not suitable*";⁵⁰⁹ (ii) there are at least 37 pipeline systems in each train (74 in total) that are defective and require "*'make good' actions [that] must be implemented*";⁵¹⁰ (iii) GE's system to start up the MRC motors does not work and, therefore, the Trains are inoperable until GE provides the required VFD solution; (iv) there are 22 PRVs that "*have back-pressure issues [and] requ[ire] a mitigation action*";⁵¹¹ (v) due to GE's design of the connection points for the pipeline between the pipe rack and the flare stacks "*[t]here are pockets (zero-slope traits) in the flare header and piping between PRVs and flare header that must be eliminated.*"⁵¹²

⁵⁰⁶ Wills Expert Report, *passim*.

⁵⁰⁷ Statement of Counterclaim, ¶¶ 169-170.

⁵⁰⁸ Exhibit C-1, Clause 1 (emphasis added).

⁵⁰⁹ Exhibit C-243 at p.3 of 15.

⁵¹⁰ Exhibit C-243 at p.8 of 15.

⁵¹¹ Exhibit C-243 at p.14 of 15.

⁵¹² Exhibit C-243 at p.14 of 15.

430. GE asserts that mechanical completion was achieved when the last of the 18 sub-systems in their scope of supply was certified as complete.⁵¹³ That is not correct. First, the definition of mechanical completion requires the “*Plant*” to be complete, with the exception of “*any minor items which do not materially affect the operation or safety of the Plant.*”⁵¹⁴ The fact that GE was able to obtain certifications for the 18 sub-systems would not mean that the Plant was mechanically complete if, in fact, there are defects that do materially affect its operation and safety.
431. Second, post-certification investigation has revealed — and GE admits — that the sub-systems are not complete, and the contrary certifications that it solicited were, therefore, necessarily erroneous. GE’s reliance on certifications that, based on its own admissions, should never have been issued is disingenuous.

2. Interconnecting Pipework

432. GE claims US\$ 3,904,761.50 to provide the piping needed to connect the GE modules to one another within the Trains.⁵¹⁵ GE first asserted that the ICPs were outside the scope of the Equipment Contract in December 2015,⁵¹⁶ shortly after Claimants demanded US\$ 4.25 million in liquidated damages (“**LDs**”) for GE’s late delivery of the Trains. GE withheld the ICPs and demanded US\$ 3.9 million for the ICPs, but offered to provide them immediately for free if Claimants waived the LDs. Claimants refused to accede to GE’s threat to hold the ICPs — and their entire project — hostage. GE eventually backed down, agreeing to deliver the ICPs subject to later resolution of payment responsibility.
433. GE’s claim is frivolous.
434. First, GE’s scope of supply includes modules M-2000 through M-2007. Those modules, particularly M-2000, include the ICPs that connect the various modules. In fact, the scope

⁵¹³ Statement of Counterclaim, ¶ 170.

⁵¹⁴ Exhibit 1, Clause 1 (definition of “Mechanical Completion”).

⁵¹⁵ Statement of Counterclaim ¶¶ 171-74.

⁵¹⁶ Exhibit C-299.

of supply expressly states that while the rack will be delivered as loose parts, the “*Pipes will be delivered assembled.*”⁵¹⁷

435. Second, GE’s scope of supply expressly excludes the ICPs “*to non-Seller supplied equipment.*”⁵¹⁸ If ICPs between Seller supplied equipment was also excluded, the contract would not have limited the exclusion to non-Seller supplied equipment but would have applied it to all ICPs. Contrary to New York law, GE’s reading of the Equipment Contract renders this clause superfluous.
436. Third, consistent with the first two points, the signed Minutes of Meeting of the Kickoff Meeting that occurred on September 22-23, 2014 — just after the Equipment Contract was signed — state that ICPs “*between modules is in GE scope of supply and shipped prefabricated,*” but that ICPs “*between GE equipment and non-GE equipment is not in GE scope of supply.*”⁵¹⁹
437. Fourth, GE’s isometric drawings and P&IDs both confirm that GE has always understood the ICPs connecting its modules are within its scope of supply, while ICPs connecting the Trains to Claimants’ other equipment are not.⁵²⁰ GE’s counterclaim fails to disclose what its own drawings and diagrams expressly show.
438. Fifth, GE’s argument is irrational. GE sold a fully modularized plant capable of producing 0.25 MTPA of LNG. It did not sell a series of individual pieces of equipment.

3. Bolt Changes

439. GE’s claim for the cost of replacing the mild steel (or black) bolts with galvanized bolts is misplaced. As an initial matter, GE never issued a formal request for change order, and

⁵¹⁷ Lancaster Expert Report, Section 5.3.3; Exhibit C-1, Appendix A, Clause 3.1.1.

⁵¹⁸ Exhibit C-1, Appendix A, Clause 3.1.3.

⁵¹⁹ Exhibit C-46.

⁵²⁰ Lancaster Expert Report, Section 5.3.3.

Claimants never agreed to any change in contract price for replacing the bolts. As explained above, this alone defeats the claim.

440. Second, GE's position is contradicted by its commitment in 2016. At that time, when GE's then-project manager, Michael Cohen, visited the Rumuji site, "*he confirmed that [Claimants] had raised a legitimate issue.*"⁵²¹ Following that visit and admission, Mr. Cohen confirmed in writing:⁵²²

I. Rust on studs/nuts

a. GE is offering to provide a new set of hot-dip galvanized steel studs/nuts to replace those uncoated steel studs/nuts on ssLNG trains 1 and 2 at site

i. Quantity to be ordered is per design for each train + 10%

ii. Material cost is at no charge to IEC

441. Far from making a Request for Change Order in accord with Clause 24 of the Equipment Contract, GE expressly told Claimants that there would be no cost impact. Curiously, GE's Counterclaim fails to disclose this central, exceedingly relevant fact to the Tribunal.

442. Third, GE's use of mild steel bolts was a defective design and in breach of the Equipment Contract. GE was contractually obligated to deliver Trains that were tropicalized and had a design life of 20 years. Clause 13.2, titled "*Quality of Materials*," states "*The Plants shall be brand new ... The Plants shall be treated to resist deterioration due to the normal prevailing local conditions on Site in accordance with the mutually agreed specifications in Appendix A.*"⁵²³

⁵²¹ Pirijns Witness Statement, ¶ 14.9.

⁵²² Exhibit C-134 (emph. in original.).

⁵²³ Exhibit C-1, Clause 13.2. See also Exhibit C-46 ("*IEC informed GE that the equipment will be used in a tropical environment. GE stated that its equipment is installed at several sites globally with extreme weather conditions, and that the equipment for this plant will be designed appropriately.*").

443. The nuts, bolts and studs that GE selected were corroding even before they arrived in Nigeria, and that corrosion accelerated in the harsh Nigerian climate.⁵²⁴
444. Claimants' expert contends that tropicalized — *i.e.*, galvanized (or stainless steel for stainless steel components) — bolts were not specified, but “*a case of preference engineering.*”⁵²⁵ That is not correct. Even GE disagreed with this assertion when Mr. Cohen visually observed the extent of the defect in mid-2016. As the Exponent Expert Report explains, “*respondents should have taken special precautions for the selection of metal components (e.g., ... bolts, etc.) used on site. The rapid onset of corrosion on bolts, nuts ... demonstrates that Respondents failed to . . . consider the corrosive environment at Greenville and the impact it would have on certain components, as well as the risks for personnel safety and facility damage.*”⁵²⁶

4. Gas Composition

445. The Claimants provided one gas composition in August 2014, which provided the basis of design for the Equipment Contract. That composition has never been changed, and Claimants never authorized GE to alter the design parameters of the Trains to accommodate any other gas composition.⁵²⁷
446. Claimants did ask GE to assess various possible alternative gas compositions from time to time to determine how they would work with the contractual design.⁵²⁸ As reflected in a January 2015 email exchange between the parties, GE committed to perform this work at no charge. Thus, Mr. Pirijns wrote: “*GE made it very clear that we can NOT get the native hysys native file. But as compensation GE will run a hysys simulation every time we ask for it.*” Mr. Cohen replied: “*GE agreed verbally to run Hysys simulations during contract*

⁵²⁴ Pirijns Witness Statement, ¶¶ 14.4-14.8; Exponent Expert Report at p. 54; Exhibit C-761 (Photographs).

⁵²⁵ Googan Report, ¶ 3.5.1.3.

⁵²⁶ Exponent Expert Report, p. 53.

⁵²⁷ Pirijns Witness Statement, ¶¶ 13.38, 16.41, 17.1-17.5.

⁵²⁸ *See, e.g.*, Pirijns Witness Statement, ¶¶ 13.36-13.37, 16.3.

*negotiations, true. ... GE will agree to run a “first pass analysis” for alternate gas compositions you submit ... If the results are favorable ... and upon your request, we can run this deeper analysis. But since a full analysis typically requires several days ... we will need to ask for schedule relief (therefore change order)”*⁵²⁹

447. In the foregoing exchange, Mr. Pirijns insisted that GE had no right to compensation for conducting HYSIS analyses “*every time we ask for it,*” and Mr. Cohen did not dispute that GE was entitled to no compensation.⁵³⁰ (Mr. Cohen did request schedule relief, but that was never accepted by Claimants or insisted upon by GE.) Having accepted that no compensation would be payable, GE’s after-the-fact demand in their Counterclaim is barred by Clauses 2 and 24 of the Equipment Contract.⁵³¹
448. Finally, this claim is entirely speculative and unproven. GE has provided no manhours allocations for any change request. Accordingly, there is no legitimate basis on which to award quantum.⁵³²

5. Load Out Philosophy

449. According to GE, the Equipment Contract required GE “*to design for specific storage and export capacities.*”⁵³³ GE alleges that these were “*changed numerous times after contract execution, which had a fundamental impact on the design basis for many unit operations of the Trains.*” GE claims an additional US\$495,000 in compensation for work in connection with the alleged changes.

⁵²⁹ Exhibit C-128.

⁵³⁰ Exhibit C-128.

⁵³¹ Notably, GE did propose a change order request to perform an Hysys analysis shortly after this email exchange. Claimants rejected it in its entirety, and GE nonetheless proceeded to conduct the Hysys analysis in accord with the oral promise it had made during contract negotiations. Exhibit R-38 (unsigned COR-018); Exhibits C-128 and C-129; *see also* Pirijns Witness Statement, ¶¶ 16.32-16.34. Having been denied, GE’s decision to conduct the work without compensation, and now to seek after-the-fact compensation for it, is wrongful.

⁵³² *See, e.g.,* Wills Expert Report, ¶¶ 24-28.

⁵³³ Statement of Counterclaim, ¶180.

450. GE's claim is baseless. GE cites no factual support for its assertions, and even fails to specify any "*changes*" or any particular impacts on design. Rather, GE cites to the expert report of Mr. Smith, who himself works only from the allegations stated in GE's June 2018 demand. By choosing not to support its claim at all, GE has waived it.
451. In any event, the Parties agreed in the July 2015 settlement agreement to certain changes, including changes in load out process, for which IEC agreed to pay US\$1 million in additional compensation.⁵³⁴ Had GE foreseen additional costs relating to load out philosophy, GE was obligated to raise that concern at the time. It did not. Pursuant to Clause 24 of the Equipment Contract, GE can be entitled to nothing more.
452. Aside from the fact that this issue was definitively resolved by the July 2015 settlement agreement, GE has not articulated any particular costs or issues for which it was not compensated. It never presented a Change Order Request for such additional costs or expenses. And even today, its demand for compensation is based on subjective estimates with no time sheets or other reasonable support. The claim must be denied.

6. Power Generation

453. Again, GE has put forward a wholly unsupported claim for US\$255,500 allegedly related to changes caused by "*IEC's failure to specify the interface between the Trains and the power generation package*" until after the Equipment Contract was signed.⁵³⁵ But all sides understood at the time that the Contracts were signed that the power source had not yet been defined. There was no "*failure*" by Claimants in this regard. Power issues were discussed frequently during 2014 and 2015, with the parties memorializing their agreements on power-related disputes in the July 2015 settlement agreement.
454. To the extent that GE considered that the iterative process effected a Change, which entitled GE to compensation, it was incumbent on GE to raise that issue when entering into the July 2015 settlement agreement. That it did not do so in July 2015, and has never made a

⁵³⁴ Exhibit R-43.

⁵³⁵ Statement of Counterclaim, ¶182.

subsequent Change Order Request, reinforces the conclusion that this supposed “change” has been “cooked up” by GE long after the fact.

455. In any event, GE has failed to substantiate a demand for compensation because it has offered no manhours records allocated to the alleged work.

7. Alleged Technical Information Delay

456. GE seeks US\$329,000 in compensation for alleged delays in providing technical information. Again, this claim lacks any basis. GE bases its assertion that certain responses were untimely by reference to some inchoate “*EPC industry standard practice*.” No such timelines were relevant or binding on the parties.⁵³⁶ Indeed, GE disputes even that it was an EPC contractor.
457. In any event, GE again fails to specify any particular decision that was affected by a delayed response to a technical request, much less the time or cost impact of that alleged delay. And in fact, as explained above (*see* text at ¶ 146), virtually every one of GE’s requests for information were designated by GE as having “Low” or “None” design impact. In the absence of concrete allegations, GE’s demand must be denied.
458. As to quantum, again there are no records of manhours allegedly spent with respect to delayed technical responses. That is hardly surprising since there is no specific allegation of particular delays or particular consequences. There is no basis for compensation.

8. Requests for Alternative Designs

459. GE’s demand for US\$178,500 in compensation for additional work created by unspecified requests for alternative designs must be rejected. It is not even clear from the demand what GE understands an “alternative design change” to be, much less any indication of particular requests from Claimants that allegedly created additional work. There were no Change

⁵³⁶ GE’s own analysis gives the average wait for responses to RFIs as 15 days — hardly unreasonable. For example, Clause 12.2 of the agreement provides that Buyer may provide comments to Technical Documentation within 15 days.

Order Requests submitted in connection with this supposed issue. This effort to trump up a claim for additional compensation without detail or support must be denied.

460. Likewise, the asserted claim to quantum suffers the same flaws as GE's counterclaims generally and is not adequately supported.

9. Vent/Flare

461. GE seeks US\$234,500 for additional work needed to effect changes to the design of the flare system based on "*numerous changes to the composition of the feed gas and other technical data.*" But as noted above, the composition of the feed gas never changed from September 2014. Moreover, GE agreed as part of the July 2015 settlement to "*provide TIE-IN to flare system for BOP.*"⁵³⁷ GE fails to specify any particular changes that affected design of the flare, much less how the changes created additional work for GE.
462. Finally, as to the alleged quantum, GE fails to distinguish this claim from other alleged abortive design changes for which it seeks compensation. The prospect of double charge is virtually certain since there are no records of manhours to support the allegedly additional hours. There is no basis for compensation.

10. BOG Compressor Inlet

463. GE's claim for an additional US\$229,557.60 for a boil-off compressor inlet must be denied. GE contends that IEC asked it to design a boil-off compressor inlet and related instrumentation that GE contends was not part of the Scope of Supply. Notably, GE has not identified a Change Order Request submitted in connection with this request, and its expert, Mr. Borrowman, acknowledges that (i) the claim presented in the counterclaim is different than the claim GE presented in June 2018, and (ii) he had not found "*any documented reference to IEC's request to GEOG to provide the inlet knockout drum for*

⁵³⁷ Exhibit C-15.

*the BOG heater.*⁵³⁸ GE cannot reasonably demand payment for services that it cannot begin to document or substantiate. In any event, Clause 24 precludes such a claim.

464. GE's quantum analysis suffers the same general flaws as its other demands. There are no records of manhours to support the allegedly additional hours. Mr. Hillier bases his analysis on GE's own, unsubstantiated assertions.

11. LNG Control System Spares

465. GE claims US\$421,280 for allegedly purchasing spare parts for IEC. Clause 10.4 of the Equipment Contract, however, requires GE to ensure 10-year availability of strategic spares. Claimants are entitled to rely on GE's obligation simply to ensure availability. In order to comply with this obligation, GE elected to advance purchase items and provide them to Claimants. This was not requested by Claimants, nor was it a change. GE took that action to comply with its contractual obligation in the face of termination of a supplier relationship. That is management by GE of its own risk and has nothing to do with Claimants. There is no evidence offered by GE to the contrary.
466. In any event, the quantum claim is unsupported by manhour reports or evidence of out-of-pocket expenditures.

12. Claims on extension of time, prolongation, acceleration and thickening must be rejected

467. The Statement of Counterclaim itself says almost nothing about GE's delay-related claims and refers wholly to the Hillier report. This, alone, reflects GE's lack of seriousness or belief in them.
468. The Claimants deny those claims for the reasons set out below, and in reliance on the expert reports of Mr John Lancaster relating to schedule delay analysis, and Mr. Matthew Wills relating to quantum analysis. Because all of GE's claims are undefined and unsupported, GE is unable to establish that it is not double-counting the same alleged conduct for

⁵³⁸ Borrowman Report at ¶¶ 4.3.6.1; 4.8.1.1.

multiple heads of recovery. In any event, GE's general allegations of delay — unsupported by specific factual statements or documents or even a critical path analysis — cannot support recovery. These facts are alone sufficient to deny the delay-related claims.

469. We mirror here the summary presentation by GE of its assertion regarding delay-related claims:

- (a) ***Extension of Time.*** Through Mr. Hillier, GE claims an extension of time for Train 1 to May 2018 and for Train 2 to July 2018. No such extension of time requests were sought during performance of the contract, which standing alone defeats these claims.⁵³⁹ In any event, Mr. Hillier does not perform a critical path analysis. By contrast, Mr. Lancaster's critical path analysis demonstrates that GE is responsible for the extensive delays in this case, not Claimants. Insofar as GE's prolongation, acceleration and thickening claims are all linked to the extension of time claim, they all fall as a result of the faulty extension of time analysis.
- (b) ***Prolongation.*** GE's prolongation claim is also an unsupported global claim and may be rejected for that reason alone. Moreover, as Mr. Lancaster makes clear, GE is responsible for the delays and prolonged performance that its defective performance necessitated. GE's Quantum Assessment for prolongation is particularly baffling. It appears to be based on the "*engineering management team overhead support*" for a period of 30 extra months, reduced by 75 percent, to account for other GE activities. No information is given as to what resources were being prolonged and in what way they are separate from the direct cost claimed in relation to other claims. GE's justifications for the claimed compensation are inadequate.
- (c) ***Acceleration/Thickening.*** GE's acceleration and thickening claims duplicate its other claims under the Equipment Contract: GE claims that it incurred longer

⁵³⁹ Exhibit C-1, Clause 6.3 (requiring, *inter alia*, that Seller provide notice to Buyer within 7 working days of learning that conduct of Buyer has delayed, or Seller anticipates will delay, delivery)

hours, applied more resources or brought in additional infrastructure because of the issues raised in its other claims. If that is correct, then the additional resources would be captured by those claims if they had had any merit. Indeed, Mr. Hillier admits that GE has not itemized the instructions or other causes of alleged thickening, allegedly because the cost would be disproportionate.⁵⁴⁰ It is GE's right to choose not to substantiate a claim. But in the absence of any evidence or even description of alleged costs allegedly associated with alleged acceleration/thickening, the claims must be rejected.

- (d) **Disruption.** GE presents no analysis of the disruptive effect of various alleged Changes (*i.e.*, beyond the alleged direct costs claimed in those items) and says they are just examples. Moreover, no quantum figure is even submitted for disruption. This claim is unsubstantiated and must be denied.
- (e) **Delayed Payment.** This claim must be denied because GE has not established entitlement to any funds that have been withheld. Claimants may withhold payment on an invoice or on a portion thereof in the event GE fails to perform the Milestone related to the payment.⁵⁴¹
- (f) **Delays in Change Order Approval and Payment.** This is merely a variation of the claim for interest. GE had not even presented Change Order Proposals for the vast majority of these issues until Claimants questioned Mechanical Completion of Train 1 in June 2018. In any event, GE has not established entitlement to payment on the underlying substantive claims. This claim must be denied.
- (g) **Rates Escalation.** Even if GE were entitled to some compensation under the Supply Contract, it is not entitled to any rate escalation because the Supply Contract has no provisions allowing escalation of rates, either during the expected performance term or relating to prolonged performance.

⁵⁴⁰ Hillier, ¶ 5.16.3.1.

⁵⁴¹ Exhibit, C-1, Clause 7.5

C. Each of GE's Claims Under the Services Agreement Fails

470. GE's claims under the Services Agreement also fail at a number of levels. We review each below.

1. No Additional Support Was Requested Under the Services Agreement

471. GE claims US\$ 11 million in supposedly additional support provided under the Services Agreement. However, GE has offered no written request from Claimants for such services, and Claimants deny that they have ever demanded any additional support from GE Nigeria under the Services Agreement. Indeed, as discussed previously, the personnel provided by GE Nigeria were incapable of providing meaningful assistance on the project because they lacked relevant experience.

472. Moreover, any additional resources committed to the project by GE were necessary to correct GE's own failed performance of the Supply Contract and Services Agreement. This pattern of malfeasance is documented throughout this SoC. Indeed, GE admits that it did commit extra resources to the project to remedy its own failings and that there was "*no clear point of transition*" between work under the two contracts. GE's claim for additional services must be denied for the independent reason that GE cannot establish what work it provided under which contract and for what purposes.

473. In addition to lacking substantive merit, GE admitted in its June 2018 Review of Quantum Matters that there were in fact no facilities within GE for time recording at greater detail than project level, so there are no records of actual hours by tasks. This includes recording of original scope work as well as alleged additional scope. Thus, this claim is necessarily predicated on estimates of time based on records made for the execution of similar tasks — a sort of "measured mile" approach. That is insufficient to support the quantum demand. Mr. Hillier's blessing of estimates does not render the estimates sufficient to establish a basis for payment to GE. Indeed, it is precisely what the Services Agreement's requirement of advance written agreement exists to avoid.

2. Alleged Cost of Third-Party Support

474. GE claims that “IEC failed to provide suitable, health, safety and welfare services on site, cause GE Nigeria to procure these services itself.”⁵⁴² Specifically, GE claimed US\$801,273 composed of the following elements:
- (a) \$479,560 for ambulance rental and related medical support services starting in March 2017;
 - (b) Roughly US\$68,000 for third party Environmental Health & Safety consulting services starting in May 2017;
 - (c) A 20% surcharge on these third-party expenses totalling US\$109,512;
 - (d) 402 man-hours — estimated rather than documented — to identify services missing at the Rumuji site, and to coordinate “security transportation details,” and to manage these issues. At US\$350 per hour, this resulted in an additional claim of US\$140,700.
 - (e) GE also claimed US\$2,918 in cost to acquire “Materials – Kitchen,” plus a 20% mark-up (\$583.60) for GE to administer the acquisition of kitchen materials (presumably project management time was also devoted to this activity).
475. The claim is absurd. From the outset, it is important to reiterate that safety is of paramount importance to Claimants. At no point, were GE Nigeria’s personnel exposed to any conditions that Claimants’ personnel — including Mr. Van den Broeke — were not also exposed every day at the plant site.
476. Neither GE in its counterclaims, nor Mr. Hillier, cite any basis for the claim in the Services Agreement. There is no indication that GE provided any notice to Claimants of their intent to procure these services before they were acquired. In any event, Claimants were not obligated to incur any expenses that GE may have decided were appropriate (or even

⁵⁴² Statement of Counterclaim, ¶ 203.

necessary) to promote the welfare of GE Nigeria's staff. Nor is there any explanation as to why these particular expenses were necessary for safety or welfare. Indeed, the "*Materials – Kitchen*" may have consisted of a full bar or an espresso machine.

477. The calculations themselves are also made-up. GE's internal costs are purely estimates without any evidentiary basis in time sheets or other documentation. No personnel are identified. It is not even clear that GE's personnel did any work relating to these issues. The claims are also facially duplicative: GE charges both a 20% mark-up on third party expenses and project management fees.
478. Mr. Hillier says he conducted a review of these claims, resulting in a 3.5 percent reduction of the total claim to US\$773,286, with the difference attributable to calculation errors by GE. But Mr. Hillier's review produced some unusual results. For example, he lists a purchase order for EHS services from Lonadek Nigeria Limited, dated March 1, 2018, valued at 27,158.12 Nigerian Naira. But when Mr. Hillier converts this amount to US\$ he lists the value as US\$31,231.84.⁵⁴³ The trouble with this is that the exchange rate on March 1, 2018 was 0.00275 US Dollar to 1 Nigerian Naira.⁵⁴⁴ That meant that the value of the invoice was US\$74.72. In other words, Mr. Hillier has massively overstated the USD value of the invoice. Certainly, Mr. Hillier must have made an error. But his entire Report is premised on guesswork, and even one such error leaves little confidence in the value of his audit.
479. This claim exemplifies the absurdity of GE's claims. They were created for the purpose of imposing costs on Claimants and encouraging a negotiated resolution of GE's wrongdoing on Claimants' project. The counterclaims have no grounding in the Contracts, in facts, or in reason and logic.

⁵⁴³ Hillier at ¶ 6.5.8.4.a., p. 143.

⁵⁴⁴ <https://www.oanda.com/currency/converter/>

3. Third Party Strikes

480. GE is not entitled to any compensation in connection with alleged impacts of an alleged labor strike by one of Claimants' construction contractors that allegedly caused contractors of GE to be locked in and then out of the site.
481. Again, the claim lacks any basis in the Contracts or in fact. First, this is not a "Change" to the scope of the Services Agreement, as Mr. Hillier suggests.⁵⁴⁵ Nor is it rooted in an alleged request for additional service by Claimants. When GE presented this claim in June 2018, it was presented as a breach by Claimants of their obligation to provide free access to the site.⁵⁴⁶ However, that claim has now been abandoned, as GE offers no defense of that assertion in the Statement of Counterclaims or Mr. Hillier's report.
482. There is also no factual support for the claim. There is no indication that Claimants bore any responsibility for the strike or failed to take appropriate reaction in response to it. There is no description from witnesses who participated in the alleged response activities of GE. There are simply a series of unsupported assumptions that do not constitute evidence.
483. Finally, even though Mr. Hillier reduces GE's claimed amount from US\$975,000 to US\$217,500 (mostly due to a "mathematical error"), he does not point to invoices or any work papers that confirm actual time spent or expenses incurred. In essence, he simply asserts that the reduced claim amount seems fair in light of what GE says it did and how long GE says that it took. That is not support for a claim of damages.

4. Third Party Vendor Support

484. GE claims US\$1,289,250.40 in alleged costs associated with "*external subcontractors*" brought on site to assist with issues GE contends were caused by Claimants or that were

⁵⁴⁵ Hillier at ¶ 6.6.2.3. Mr. Hillier cites no fact that would suggest that the strikes constituted a "change order event." He quotes testimony from Mr. Pagliaro, but that testimony has literally nothing to do with strikes. *See id.* At ¶ 6.6.2.4. This passage again leads one to question the thoroughness of Mr. Hillier's review.

⁵⁴⁶ Exhibit R-3 at Y3.1.1.

part of Claimants' scope. This claim provides unambiguous evidence of Mr. Hillier's lack of independence and credibility.

485. Initially, there is no basis for the claim in the Services Agreement. GE does not contend that Claimants requested or otherwise authorized GE to incur third party costs. On that basis, alone, the claims should be denied.
486. Independently, the only evidence that GE cites to support its claim affirmatively demonstrates that the claim has been contrived. GE cites to testimony from Chika Kejeh. In the cited testimony, Mr. Kejeh describes alleged flaws in Claimants' management of materials and erection of the Trains.⁵⁴⁷ Those points are plainly disputed by Claimants. As to the critical issue for the counterclaim, *i.e.* what costs did GE incur, GE cites Mr. Kejeh for the following:

*GEOG also engaged external subcontractors to assist with the resolution of those issues that were GEOG's responsibility, such as Manuex, Orbit Integrated Services Ltd and Geoplex. Ultimately, some of these subcontractors also assisted to resolve IEC's punch list items and, at a later stage, supported IEC's pre-commissioning activities.*⁵⁴⁸

487. Thus, Mr. Kejeh acknowledges that the external subcontractors were hired by GEOG to work on GE's scope of work, not Claimants. By contrast, Mr. Hillier describes Mr. Kejeh's statement as supporting his determination that "*GEOG is entitled to be reimbursed for its supervision and third party vendor costs carrying out inspections and remedial works to equipment that was damaged whilst in the care, custody and control of IEC.*"⁵⁴⁹ Of course, Mr. Kejeh said that the external subcontractors were engaged to assist with issues "*that were GEOG's responsibility,*" and only "*some of these subcontractors*" assisted with

⁵⁴⁷ Statement of Counterclaim, ¶ 207. Witness Statement of Chika Kejeh, ¶¶ 22–28.

⁵⁴⁸ Witness Statement of Chika Kejeh, ¶ 42 (emphasis added).

⁵⁴⁹ Hillier at ¶ 6.7.2.6.

resolving some unspecified and unidentified punch list items and pre-commissioning activity.

488. Shockingly, on this basis, Mr. Hillier affirms US\$1,254,950 in third party vendor estimates from GE. Indeed, he does not even rely on actual costs, but simply accepts GE's assurances: "*GEOG have been unable to provide actual costs incurred but it is apparent that vendor has been to site and I understand there is very little (if any) further costs to be incurred.*"⁵⁵⁰ Moreover, GE's estimates include a 20 percent mark-up by GE. Yet Mr. Hillier then further affirms another US\$33,800 in GE's estimated project management, controls and engineering support costs, on top of that 20% mark-up.
489. It is illustrative of GE's counterclaims that it would claim third party subcontractor costs when its own witness asserts that the subcontractors were retained to support GE, not Claimants, and that only some of those subcontractors (allegedly) did limited work on Claimants' scope of work. There is no basis whatsoever to sustain this claim.

5. Material Care and Custody Audit & Defective Site Material Management

490. GE seeks US\$310,358 for the manhours GE estimates that it or its third-party providers devoted to addressing issues created by Claimants' alleged failure to properly maintain equipment following delivery. GE also claims US\$258,231.77 for materials that it allegedly had to re-ship because they were misplaced by Claimants. These claims are denied.
491. As a factual matter, it was GE, not Claimants, that struggled with material management.⁵⁵¹
492. As a legal matter, there is no basis in the Services Agreement for this claim. GE points to no written request for these additional services. Moreover, shipment of additional parts and the related labor would fall under the Equipment Contract, not the Services Agreement. In any event, there is no support linking alleged materials mismanagement to particular

⁵⁵⁰ Hiller Report, ¶ 6.7.9.7.

⁵⁵¹ See, e.g., Srinivasan Witness Statement, ¶¶ 6.1-6.4.

plant issues, or linking particular plant issues to particular work streams. Rather, we are required to accept GE's assertion that the work it undertook was only necessary because of materials mismanagement by Claimants. We are also asked to take GE's assertion that the materials it shipped were later found in Claimants' warehouse when that is disputed.

493. And again, GE provides no invoices or work records to support its estimated man hours, or even the fees of third-party service providers. Rather all figures are invented. And on top of the estimated third-party fees, Mr. Hillier and GE apply GE's 20 percent mark-up. This is not sufficient support for a quantum demand.

6. Accommodation and Transportation

494. GE felt that the accommodations at the Rumuji site were not sufficient for its personnel, and therefore seeks US\$157,468 for hotel charges and related expenses (all of which are estimated), estimated time for GE procurement and project support, and a 20 percent administrative mark-up of the third-party expenses.
495. The entire premise of the claim is that the Services Agreement required Claimants to provide perfect accommodations — it did not. The accommodations that Claimants provided were more than adequate. As a result, GE's decision to procure independent living arrangements for its personnel was its prerogative. It is not Claimants' expense.
496. In any event, the value of any claim has not been established. The GE support functions are only estimates, and even Mr. Hillier acknowledges that many of the third party claims asserted by GE have not been substantiated with invoices. Again, the actual costs are uplifted by 20 percent, while GE simultaneously claims for estimated time of its support staff. Such duplication is inappropriate.

7. Coordinated Project Schedule

497. Claimants deny that GE is entitled to any compensation for preparation and provision of various iterations of a works schedule, as opposed to a services schedule. Again, there is no basis offered that Claimants requested this service or agreed to pay for it. To the contrary, Mr. Kassem acknowledges that GE initiated the decision to bring on a scheduler:

“In September 2017, GEOG took the initiative to employ an overall project Planner in an attempt to fill the void created by the lack of an EPC.” GE’s decision does not require Claimants to fund that decision. Certainly, there is insufficient evidence to conclude that Claimants required the work in question, or that the scheduling work extended beyond scheduling of the performance of GE’s work on the trains in question.

498. The same flaws also permeate the quantum analysis. Neither GE, nor its scheduler have provided actual work records. Rather the demand is based on estimates — either GE’s or Mr. Hillier’s. That is not sufficient basis to quantify a demand for compensation that was not discussed or approved in advance.

8. Compensation for Extended Performance

499. GE’s demand of US\$1,000,000 due to extended performance fails for all the reasons that GE’s claim for damages for extended performance under the Equipment Contract must be denied. *See* Section V.B.12. Most fundamentally, GE’s general allegations of delay — unsupported by specific factual statements or documents or even a critical path analysis — cannot support recovery. Because all of GE’s claims are undefined and unsupported, GE is unable to establish that it is not double-counting the same alleged conduct for multiple heads of recovery, both within the Services Agreement and the Equipment Contract. In any event, GE has offered no basis to seek an extended performance type of claim under the Services Agreement, which is not a construction contract. Had more services been required to support the agreement, GE was under no obligation to provide them and cannot charge for them now. Claimants reserve all rights to address future articulations of this alleged basis for recovery of additional sums under the Services Agreement.

D. GE’s Claim for Costs Associated with the New York Action Is Misplaced, and in Any Event Premature

500. GE accuses Claimants of forum shopping because they have commenced an action in New York to secure a determination that BHGE and BHGE LLC are alter egos and successors in interest to GEOG.

501. That action was only necessary because BHGE and BHGE LLC would not accept their status as successors. Rather, they seek to preserve for themselves to take two opportunities to contest that issue: first before this Tribunal and then, if they are unsuccessful here, before a New York court in a set aside proceeding in which the issue of successor liability could be reviewed *de novo*. Under New York law, Claimants have a right to a definitive judicial resolution of that issue at the outset of these proceedings. That is all they have requested.
502. Claimants likewise reserve the right to recover from GE all legal costs associated with the New York action that GE rendered necessary by its unwillingness to accept the status of BHGE and BHGE LLC as successors in interest to GEOG.

E. GE's Alleged Breach of Confidentiality Obligations Is Misplaced

503. GE has known for years that Claimants have had to involve third party agents in connection with this project, including Technip and other engineering consultants to assist with balance of plant issues. Claimants have always taken appropriate steps to protect any Confidential Information. At no point prior to the end of November 2018 — in the midst of this arbitration — has GE ever raised concerns about its supposedly confidential information.
504. GE raised its purported concerns for the first time with respect to Softec, an Italian engineering firm that had been assisting Claimants to understand how GE had failed to perform the basic stress testing on the structural supports for Trains 1 and 2, and that the supports were in fact inadequate. It is, therefore, not surprising that GE would want Claimants to stop working with Softec. But it has no contractual basis for that demand.
505. Clause 22 of the Equipment Contract and Clause 24 of the Services Agreement define as “Confidential Information” three categories of material:
- (a) All pricing for Plants and Parts and Services,
 - (b) Information designated by disclosing party as “confidential” or “proprietary” in writing at the time of the disclosure, and

- (c) Information orally designated by disclosing party as “confidential” or “proprietary” at time of disclosure and confirmed in writing as such within 10 days of the disclosure.
506. With respect to “Confidential Information” received from GE, Claimants agreed
- (a) To use the information only in connection with the Agreements and permitted uses and maintenance of the Plants;
 - (b) To take reasonable measures to prevent disclosure of the Confidential Information, “*except to its employees, agents or financing parties who have a need to know for [IEC] to perform its obligations under the Agreement or to use and maintain Products or Services*”; and
 - (c) Not to disclose Confidential Information to a competitor of GEOG.

Further, IEC agreed, *inter alia*, to “*obtain a commitment from any recipient of Confidential Information to comply with the terms of this Clause.*”

507. When GE first raised its concerns about Confidential Information allegedly shared with Softec, Claimants responded to GE’s concerns.⁵⁵² Among other points, Claimants asked GE to identify what specific Confidential Information it was concerned about. To date, GE has failed to identify any particular information that qualifies as Confidential Information under the agreements. Rather, it appears to be GE’s position that any documents provided by GE to Claimants is Confidential Information. That is plainly not true, and there are a number of categories of information Claimants receive from GE pursuant to the agreements that it is free to use as needed for the project.
508. In any event, Claimants also explained to GE that Softec was acting as an agent of Claimants for purposes of the project – specifically to assist Claimants remediate the many defects that GE’s plants carried and help Claimants and GE get Trains 1 and 2 operational.

⁵⁵² Exhibit C-760.

In this regard, Claimants explained that Softec had executed a non-disclosure agreement that limited its use of any information received from Claimants to this project. Finally, Claimants pointed out that Softec is not a competitor of GE, and in fact serves as a subcontractor of GE on many projects. In sum, GE's allegations regarding improper sharing of intellectual property are misplaced.⁵⁵³

509. GE has never adequately responded to these points. Rather, GE has insisted that Softec enter into a separate non-disclosure agreement with GE in order to cooperate with GE on the structural support issues. Because Softec has no intent to use information about the project for any purpose other than advancing the project, it has been willing to execute an NDA. But such an NDA is not required for Claimants to retain agents to assist with engineering issues relating to this project. Until this arbitration commenced, GE has never contended otherwise.
510. During the lead-up to preparing this SoC, Softec suddenly became less than cooperative with Claimants. It is believed that GE had lawyers send a threatening letter to Softec, which caused this disruption. Claimants will seek any such letter from GE during the disclosure process. If correct, Claimants will seek further relief from this Tribunal.
511. Finally, nothing in the New York legal action or the December 5, 2018, Law360 article discussing that action runs afoul of any obligations of Claimants. In fact, GE does not contend otherwise. Rather, it only wants to throw chaff into the atmosphere of this case in the desperate hope that it might distract the Tribunal from GE's gross negligence and willful misconduct.

F. GE's Claim for Security for Costs Must Be Rejected

512. GE's claim for security for costs is wholly unsubstantiated. The sole support for the claim is the amount of damage that GE is alleged to have caused Claimants. That is not justification for security for costs. There is no allegation that Claimants are incapable of

⁵⁵³ Exhibit C-759.

satisfying any obligations they face. To the contrary, this entire project is entirely equity financed.

513. It is, by contrast, GE which appears intent to shelter its liabilities in a shell entity that does not appear to hold assets capable of satisfying its debts. And it is GE that is facing financial downgrades and challenges for its growing litany of financial and ethical problems.

VI. CONCLUSION

514. Claimants respectfully request that the Tribunal issue its final award:

- (a) declaring that Greenville is a third-party beneficiary of the Equipment Contract and the Services Contract;
- (b) declaring that BHGE and BHGE LLC are responsible, along with GEOG, for performance of the obligations under the Equipment Contract and the Guarantee;
- (c) declaring that GEOG, BHGE and BHGE LLC have breached the Equipment Contract;
- (d) declaring that GE Nigeria has breached the Services Contract;
- (e) declaring that GEOG, BHGE and BHGE LLC have breached the Guarantee;
- (f) awarding Claimants damages of US\$ 591 million as articulated in the Lapuerta Expert Report and the Witness Statement of Erik Helsen;
- (g) declaring that GEOG, BHGE and BHGE LLC are each liable, jointly and severally, to Claimants for all additional damages and further losses that Claimants may incur as a result of their breaches of the Equipment Contract, including costs of remedying latent and patent defects and lost profits arising from the continuing unavailability of the project;

- (h) declaring that GE Nigeria and GEOG are liable to Claimants for all additional damages and further losses that Claimants may incur as a result of GE Nigeria's breaches of the Services Contract;
- (i) declaring that GEOG, BHGE and BHGE LLC are jointly and severally liable for fraudulently inducing Claimants to enter into the Equipment Contract;
- (j) declaring that GEOG, BHGE and BHGE LLC are jointly and severally liable for defrauding Claimants during the performance of the Equipment Contract;
- (k) ordering Respondents, jointly and severally, to compensate Claimants for all fees and expenses incurred in connection with this arbitration, including legal fees and expenses, expert fees and expenses, and all other expenses including the fees of the Arbitral Tribunal and the administrative fees and costs of the AAA/ICDR;
- (l) granting such other and further relief as the Arbitral Tribunal deems just and appropriate.

Respectfully submitted,

Freehill Hogan & Mahar LLP
80 Pine Street, 25th Floor
New York, New York 10005-1759

Baker Botts LLP
41 Lothbury
London EC2R 7HF
United Kingdom

LIST OF ACRONYMS & ABBREVIATIONS

BAHX: brazed aluminum heat exchanger.

BHGE LLC: Baker Hughes, a GE Company LLC.

BHGE: Baker Hughes, a GE company.

BOD: basis of design.

BOG: boil off gas.

BOP: Balance of Plant.

ECOWAS: the Economic Community of West African States.

Electrical One-Line Diagram: the blueprint for the electrical lines that distribute power to the plant

enCryo: enCryo Engineering.

Equipment Contract: Contract for the Sale of Two Small Scale (SCMR) LNG Plants dated September 13, 2014.

Exponent Expert Report: the expert report of Robert Caligiuri and Scott Wright

GE Nigeria: GE International Operations (Nigeria) Ltd.

GEOG: General Electric Oil & Gas, Inc.

Greenville: Greenville Liquefied Natural Gas Company, Ltd. which until January 6, 2019, was known as Greenville Oil & Gas Company, Ltd.

HHCs: heavy hydrocarbons.

HHR: heavy hydrocarbon removal.

HMB: heat and material balance.

ICP: interconnected piping.

IEC: International Engineering & Construction, S.A.

IGV: inlet guide vanes.

ITP: inspection and test plans.

KoM: kick-off meeting between the parties on September 13, 2014.

KPP: the Kaduna Power Plant that the Federal Ministry of Power of Nigeria was building in Kaduna State.

Lancaster Expert Report: the expert report of John Lancaster.

Lapuerta Expert Report: the expert report of Carlos Lapuerta.

LNG: liquefied natural gas.

LPG: liquefied petroleum gas.

Lumley Expert Report: the expert report of Peter Lumley

MCC: motor control center.

MMSCFD: million standard cubic feet per day.

MR: mixed refrigerant.

MRC: mixed refrigerant compressor.

P&ID: piping and instrumentation diagram.

Plant(s): the small scale LNG plants that Respondents were to provide to Claimants pursuant to the Equipment Contract. The Plants are also sometimes referred to as the “Trains.”

PRV: pressure relief valves.

RFI log: the Request for Information log that was maintained during the first year of the project.

SASPG: Sichuan Air Separation Group.

Services Contract: Services Agreement dated

SoC: IEC’s/Greenville’s Statement of Claim and Response to Counterclaim

TPD: tons per day.

Train: the small scale LNG plants that Respondents were to provide to Claimants pursuant to the Equipment Contract. The Trains are also sometimes referred to, including within the Equipment Contract, as the “Plants.”

VFD: variable frequency drive.

Wills Expert Report: the expert report of Matthew Wills.

O&M Manuals: operation and maintenance manuals.